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ABSTRACT

Presented is a review of literature and research on identification, personality and educational needs, and effective programing for gifted children. Among the topics discussed are the difficulties of defining giftedness operationally, pros and cons with regard to using intelligence tests and informal teacher assessment to identify the gifted, factors that may encourage or inhibit the development of gifted students' potential (such as individualized instruction and negative societal attitudes), and the administrative framework of a special education program for the gifted. Focused on in a section on types of programs for gifted children are acceleration (including early admission, ungraded instruction, and gaining university credits in secondary school); homogeneous and heterogeneous grouping; and forms of enrichment (such as formal programs, independent study, and use of community resources). Suggestions are offered for planning a systemwide educational program to stimulate outstanding achievement. Also provided is a bibliography listing approximately 50 references on the gifted. (LH)

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INTRODUCTION

This is an era when only a diehard minority of educators would argue with the need and the desirability of providing special education for the slow-learning child, the perceptually handicapped, and the emotionally disturbed. It is generally accepted that it is the duty of school systems to provide suitable education for children with special needs. It is surprising, therefore, to find that one group of special children should be consistently neglected, and even more surprising to find that even though educators agree about their uniqueness they are divided on the necessity for providing special opportunities.

The difference between the neglected group of gifted children and the other groups we have mentioned, of course, is that gifted children are more, not less, capable than their normal peers, and more, not less, able to adapt to their situation. Even when they are handicapped by unsuitable curricula and administrative arrangements they tend to produce better-than-average performances. In a milieu where success and adjustment are measured by the mean level of performance they are often deemed to be successful and adjusted and in need of no furthur attention.

It is only when we throw away the yardstick of the mean and measure the performance of the gifted child against his potential that we can meaningfully assess the extent of his success. By this standard it becomes clear that a "better-than-average" performance is woefully inadequate and that the level of adjustment inferred from academic

performance fails to take into account boredom, frustration and social pressure to be mediocre. It is invariably the comparison of performance with potential that alerts educators to the need for special programs for the gifted, a need that researchers in the area have recognized for decades. As Smythe and Stennett (1973) note after reviewing the literature:

> "Whether on the basis of empirical findings, theoretical assumptions, personal experience, or mere opinion, the majority of educators and psychologists represented in the literature reviewed recommend that gifted children be given some form of specialized educational opportunities and experiences. Without such treatment, both argument and research findings indicate that the gifted child will be far less likely to realize his full potential."

If the evidence in favour of special education for the gifted is so strong, one wonders why suitable programs are so often lacking. The obvious answer is that the needs of other special children are seen as more pressing and the allocation of funds to their education is viewed as more urgent.

This is the reason suggested by Mirman (1971), but he goes further, to cite indifference and antagonism towards the gifted as also to blame. Calling for a Bill of Rights for gifted children, he says:

> "I think we need to recognize that under the present system of education, gifted students are subtle targets of discrimination through negative factors engaged by attentiveness to anti-poverty, anti-dropout, and other legitimate priorities, by misguided or overt attempts by teachers to level or equalize performance, and by the negative attitudes of peer groups towards scholastic excellence. We must further recognize that the present attitude of the community, parents, and even professional educators is not only indifferent, but frequently quite

> hostile to the idea of special education for the gifted.... The gifted child is frequently the most neglected student in our educational programming. The regular school curriculum only barely approximates the demands of either the greater learning capacity or the anticipated social roles of the gifted."

The attitudes that Mirman speaks of are reflected in common adages such as "Genius is akin to madness", and the stereotype of the gifted child as a weedy, bespectacled bookworm and a social boor. This negative image of the gifted child is found among peers, parents and teachers. Peers may respond by applying social pressure, parents by withholding praise for achievements that appear to come "too easily", and teachers by uncalled-for criticism that, they hope, will foster humility. In such an environment achievement is negatively reinforced and the gifted child may very well go underground, or in the parlance of educators, become an underachiever. Even in a less hostile environment, the absence of a challenging school program for the gifted makes it unlikely that they will develop the application and the work habits needed for them fully to realise their potential.

Underachievement is not a rare phenomenon in North America. When the yardstick of potential is used it becomes clear that a great deal of talent is going to waste. Wolfle (1964) reports that of students in the top 30% of the ability distribution, fewer than half the males graduate from college. Of the remainder, about one-fifth do not even finish high school. The figures for females are even more discouraging; gifted girls have to cope not only with sanctions against outstanding achievement but also with traditional role expectations. Wolfle says that less than one-third of the girls in the most gifted segment of the population graduate from college.

The cost to a society of this reckless disregard for its most valuable human resource is impossible to calculate. A dynamic society needs innovators above all else, and the most likely innovators are the gifted.

Educators cannot be held solely responsible for the attitudes of society. However, by instituting suitable programs and providing opportunities for the gifted that encourage them to achieve to their full potential, educators can remove an important barrier and foster the work habits that will enable the gifted to make their proper contribution. The first step is to appreciate the need for special education for gifted children. Once this need is realized steps must be taken to identify the gifted and to develop an appropriate educational milieu and curriculum. Different approaches have been tried and these are discussed in later sections. Although the approaches vary according to the perceived needs and resources of the communities practising them, certain goals tend to be universal and should be considered the minimum requirements for a suitable program for gifted children.

These are:

1. To foster the personal psychological development of the gifted child, encouraging his ability to think and work independently;
2. To foster his social development so that he will be able to empathize with others;
3. To encourage the gifted child to pursue his ideas at a deeper and more abstract level, integrating information and building concepts;
4. To provide specific skill training for the gifted child in the area of his prime interests.

These requirements may be considered among the most important criteria in evaluating the effectiveness of a program for gifted children.

CHAPTER I

IDENTIFICATION OF THE GIFTED

Before any program for gifted children can be introduced, a procedure must be established for identifying the gifted, and this in turn involves agreeing on a definition of the term.

Opinions as to what constitutes giftedness vary widely. At the one extreme are those who maintain that every person has some gift or talent, some unique ability which, properly channelled, will enable him to make a unique contribution to the world. This is an attractive and humanistic conception of giftedness; the gifted are not an elite, for all of us are gifted. Apart from its egalitarian appeal the conception has important educational implications. It focusses attention on the need for individually-oriented programs, designed to make the most of the special abilities of each student. Unfortunately, as educators have recently discovered, such programs require an investment of public funds and a teacher-to-pupil ratio that is seldom available. Further, such programs require skills in diagnosing and nurturing a multiplicity of talents which most teachers and counsellors lack. Giftedness as a universal characteristic is an appealing concept, but a sterile one given our present limitations of knowledge, skills and resources.

At the other extreme are those who equate giftedness with intellectual prowess as measured by performance on some standardized intelligence test. By this standard those who score in the top two per cent (above 132 on the Stanford-Binet) are considered to be gifted.

This narrow conception of giftedness has its advantages, the main one being that it provides an operational definition. IQ scores are available for children in most school systems; without further testing it is possible to identify that small, manageable group who are "gifted" and to move from insubstantial questions of definition to the concrete problems of providing suitable curricula. However, the narrowness which permits such ready operationalization of the concept of giftedness also has its drawbacks. Does an IQ score satisfactorily measure such qualities as creativity, leadership, artistic ability or unusual combinations of ability and motivation which may lead to extraordinary achievements?

In the last decade many workers in the area have questioned the narrow definition of giftedness. French (1964), for example, points out that children who are intellectually capable may not perform in an outstanding manner despite extremely high IQ scores, while others, whose IQs are at the bottom end of the upper intelligence range (usually taken to be 115 on the Stanford-Binet) may be extremely creative. Creativity has become an especially thorny issue in recent years and the question of whether imaginative, creative thinking is necessarily associated with high IQ has been repeatedly raised. Guilford (1956) has distinguished between convergent and divergent thinking, the latter being characterized by flexibility and foresight while the former is marked by the kind of logical, rational and ordered functioning that results in high scores in most standard intelligence tests.

As Gallagher (1964) points out, standard IQ tests usually have items with a single correct answer and narrow consideration of the subject. On the other hand, tests of divergent thinking typically stress the production of many answers, rather than the identification of one given answer. Thus "What is a brick?" is a convergent test item calling for a standard definition, while "How many uses can you think of for a brick?" is a divergent item calling for the use of imaginative and creative powers.

Arguments such as this point out that there are at least two major aspects to take into account when considering giftedness: What should the range of the concept be, and how should it be measured. The two facets obviously are inter-related. If giftedness is seen as potential in any area the number of gifted persons is extremely large, encompassing, in the extreme case, almost everyone. If giftedness is seen as performance or achievement we must consider what kinds of performance should be used to measure giftedness. IQ tests, which have repeatedly been shown to correlate highly with academic achievement, are quite useful but may be too confining. Similarly teacher assessment or assessment by academic performance may overlook children whose potential exceeds their performance for any one of many possible reasons. Inclusion of such things as creativity in the definition of giftedness is certainly warranted, but tests of creativity still leave much to be desired.

One way of overcoming these problems is to have a sufficiently flexible concept of giftedness to incorporate qualities that cannot as yet be consistently and accurately measured, while applying an operational definition based on practical and relatively well-established measures. Such an approach permits us to expand our notion of giftedness to include children with less well-recognized talents if and when the methods to identify those talents become available. Meanwhile the problem of creating suitable programs for those children whose talents are presently recognized and can be fairly simply identified, can be tackled.

For the present a working definition such as the following may be useful:

> A gifted child is one whose performance, relative to his peers, is in the top five per cent, such performance being measured by some accepted intelligence test, test of ability or aptitude test; OR who demonstrates outstanding ability or achievement in some area; OR who is assessed by teachers or counsellors as having exceptional promise.

If our methods of assessment were comprehensive and foolproof and if variables such as motivation and home environment were not involved, all these methods would correlate highly; in fact, because of deficiencies in our measures and uncontrolled variables, a child may frequently qualify as gifted by one criterion but not by the others. Within educational systems which stress individual programs for students, the diagnosis of giftedness is not especially critical, but insofar as an educational system may only provide special programs for those few individuals who are identified as gifted, the criteria should admit of broad application.

The definition mentions a variety of methods for assessing giftedness. Outstanding achievement by a child, such as writing a book and getting it published, having a scientific or technical project accepted by experts in the field, or producing a musical score that is acclaimed by critics is highly visible, by definition, and unarguable. A child who achieves in such a way while still at school is already well on the way to coping with and developing his special talents. Ability tests, aptitude tests and achievement tests are already used by many school systems, many of them tailor-made for the perceived needs of the community. Intelligence tests are also widely used, but here the tendency is to use a few standardized forms and the uses and abuses of these tests are not always fully appreciated by administrators. Because of the central role they often play in identifying the gifted they warrant special attention. Assessment by teachers and counsellors is also widely used and also merits special attention for similar reasons. The next two sections, therefore, will be devoted to a closer examination of the latter two important methods of identifying gifted children.

USING INTELLIGENCE TESTS TO IDENTIFY THE GIFTED

Alfred Binet, a French physician, and his co-workers are generally credited with producing the first practical intelligence test. In 1905 they produced the Binet-Simon Intelligence Test which was applied to identify the mentally retarded in Paris schools. A significant feature of Binet's work, and one which has marked many later developments in intelligence testing, was the introduction of the concept of mental age, reflecting the fact that despite his chronological age, a subject might perform at a level typical for older or younger subjects.

Binet's test formed the basis of the well-known Stanford-Binet Intelligence Scale introduced by Lewis Terman in North America in 1916. Terman's test provided for the calculation of an intelligence quotient or ratio IQ, obtained by dividing the subject's mental age, based on his test performance, by his chronological age and multiplying by 100. Paper and pencil tests that could conveniently be administered to large groups followed shortly afterwards when one of Terman's students, Arthur Otis, developed the Group Intelligence Scale.

Difficulties in applying the notion of ratio IQ to adults, whose intellectual performance is far less influenced by age than is that of children, led to the emergence of the deviation IQ used in Wechsler's Wechsler-Bellevue Intelligence Scale for adults.

Unlike the ratio IQ, the deviation IQ uses as a standard the individual's own age group. The standard deviation of such scores from the average (taken as 100) is 15 IQ points, so the score on the Wechsler test can be expressed in terms of IQ points or at standard deviations, which are useful in assessing an individual's performance relative to his group. The deviation IQ has since been adapted for use in the 1960 Revised Stanford-Binet test for children. The Wechsler Adult Intelligence Scale, suitable for persons over 15 years, has since been complemented by the Wechsler Intelligence Scale for Children, for children from five to 15 years, and a Preschool and Primary Scale of Intelligence for even younger children.

Intelligence tests have become the standard method for identifying giftedness. However, their use is open to criticism.

Gallagher points out (1964) that IQ tests do not measure the entire area of intellect. Creative abilities, especially, may not be reflected in an IQ score. When different types of IQ tests are compared other problems emerge because the ceilings on tests differ. For example, while the top score on the Stanford-Binet at the 12-year-old level is 190, the top score on the Wechsler Intelligence Scale for Children is 154. Similarly group intelligence tests like the Otis Quick-Scoring Test of Mental Ability have definite upper limits.

Among the other problems that arise in the administration of group IQ tests and their interpretation is that they place a premium on fast and accurate reading. These tests, therefore, tend to favour fluent readers. Similarly when a group test is administered it is difficult to discover children who do poorly because they are inadequately motivated.

Discussing the methods currently used to identify gifted children, Gallagher considers the individual intelligence test the best. However, he notes it is expensive and requires professional personnel to administer it. By contrast the group intelligence test is good for screening whole classes, but may miss gifted children who have reading difficulties, emotional or motivational problems or are culturally impoverished. Achievement test batteries in general have the same problems as do intelligence tests.

The message in this for educators is that intelligence tests should not be taken as the ultimate criterion of giftedness, both because of the difficulty in interpreting and comparing intelligence scores and because of the narrow area of behaviour measured by such tests. However, they can be a valuable component in a multi-method program to identify the gifted. When used in this way a reasonable procedure would be to

use group-administered intelligence tests for initial screening, followed by individual testing of children in the upper range, generously defined. Where costs forbid the individual testing of all children in the upper range, a defensible procedure probably is to assume that all children will do at least as well on individual tests as they did on the group test, and reserve individual testing for those children whose group scores are borderline. The fact that children generally do better on individual tests was demonstrated by Martinson and Lessinger (1960), who found that of 330 children who scored above 130 on individually-administered Stanford-Binets less than half could do as well on a group test.

Where intelligence testing is used the generally accepted cut-off point, equivalent to a score of 132 on the Stanford-Binet, appears to be reasonable. A score of 132 typically separates the top two per cent of scores.

IDENTIFICATION OF GIFTED BY TEACHERS

Asking teachers to nominate those children in their classes whom they consider to be gifted is popular with administrators because it usually involves no additional expense. In some respects teacher assessment has advantages over formal testing by professionals, who usually are not familiar with the children being tested. The teacher may be in a better position to assess potential as opposed to performance, either because isolated experiences lead him to believe the child can perform at a high level, although normal performances are unexceptional, or because the teacher through his greater contact with the child is better able to make allowance for adverse home conditions and personal difficulties that may result in poor performance.

However, not all writers agree that the teacher's daily contact with the child leads to more accurate assessment of potential, or that the teacher is more able to make allowance for factors affecting performance. Gallagher (1964), for instance, finds that teachers are particularly prone to overlook under-achievers, children who are culturally deprived, and children who have emotional or motivational problems. In addition, teachers tend to be biased against and to ignore gifted children who are belligerent or have hostile attitudes towards the school program.

Teacher assessments have been shown by Pagnato and Birch (1959) to correlate poorly with objective tests. These authors administered intelligence tests to 800 junior high school students and identified 91 children scoring in the upper two per cent range. Teachers could identify only 41, or less than half the children. In addition, the teachers named 113 children as gifted who were not so identified by the intelligence tests.

When the assessment of teachers is guided by the provision of a suitable instrument, such as a checklist, their assessments tend to agree more closely with the results of intelligence tests and to be more reliable (Abraham, 1958). Some of these instruments are quite highly structured. For example, the Behaviour Description Chart used in Quincy, Ill to identify potential leaders has a forced-choice format requiring the teacher to check from a group of characteristics, those characteristics which are most and least like the child being assessed. (Bowman, 1953)

While it may be argued that imposing this amount of structure on a teacher's judgement nullifies some of the most important factors which favour teacher assessment, such as the ability to use informal cues, Dehaan (1957) and others consider that better results are obtained when a teacher reports many specific behaviours related to a given talent, rather than making a global judgement about a child's potential. A fringe benefit of using teacher assessment, Dehaan suggests, is that teachers become more sensitive to individual differences in their students.

Sometimes teacher assessment may be the only realistic way of identifying, at least initially, those children who are gifted. This is particularly true when giftedness in areas apart from the formal subject areas, such as creative writing, fine arts, mathematics and science, is considered. There are few objective criteria for identifying potential leaders, for example, especially as leadership ability is usually evaluated by consistently good performances in many situations rather than by isolated outstanding occurrences.

In summary then, assessment by regular school staff members such as teachers and counsellors should be considered a valuable adjunct to formal testing, a means of validating new instruments and a means of identifying giftedness in areas where formal tests are lacking. Although teachers may be sensitive to potential where performance is confounded by other factors the converse is also true; sometimes potential and even high-level performances may not be recognized by teachers who allow themselves to be influenced by personality clashes with gifted students and other factors.

A final word of warning is in order: screening programs designed to identify gifted children may be highly successful at recognizing talents, but by themselves they should not constitute the ultimate criterion for admission of a child to a special program. The motivation of the child, his maturity and his degree of adjustment should also be considered. There is clearly a risk in placing a child in a special program that makes high demands when the child, because of family conflict, lack of motivation, lack of maturity or for any other of a multitude of reasons not directly linked to giftedness, is likely to be unable to meet those demands.

Screening for ability and potential should logically precede the selection of children for inclusion in special programs; the final selection should also take into account personality and environmental factors.

CHAPTER II

THE PERSONALITY AND NEEDS OF THE GIFTED CHILD

Before designing a special education program for gifted children it would be well to consider what behaviours and needs are typical. There is no simple answer to this question. Most of the research on the gifted has concentrated on factors that encourage or inhibit the development of their talents. Attempting to isolate "typical" behaviours and needs also is apt to create the impression that there is a typical personality, and obscures the range of individual differences found among the gifted. This is a danger that the gifted run: educators and psychologists alike tend to concentrate on the unique abilities of gifted children, with the result that other personality attributes fade into the background and the gifted are treated as a homogeneous group.

This tendency is exacerbated by the fact that standard personality tests, and especially standard intelligence tests, discriminate poorly among the gifted. Attempts have been made to overcome this problem, and two relatively well-known intelligence tests for the gifted are now available - Lewis Terman's Concept Mastery Test, and the Miller Analogy Test, which is widely used by graduate schools. Neither of these tests, taken by themselves, are capable of giving a clear picture of the intelligence of gifted persons, much less their personality profiles. Both tests rely heavily on verbal proficiency, with the result that creative writers typically do extremely well, while inventors of proven ability - a gifted group by all definitions - sometimes do very badly.

Welsh (1970) has tried to deal with this problem by differentiating between "intellectence" (intelligence and intellectual ability) and "origence" (originality). He studied North Carolina children classified as exceptionally talented on the basis of intelligence and aptitude tests, administering the Concept Mastery Test to measure their intellectence and aptitude tests, administering the Concept Mastery Test to measure their intellectence and the Barron-Welsh Art Scale (which asks for preference judgements on figures) to measure origence. On the basis of his results Welsh was able to divide his sample of gifted children into those high on intellectence and origence, those high on one quality but not on the other, and those relatively low on both qualities. On the basis of the children's self-descriptions he composed the following personality profiles which suggest the range of individual differences that may exist among the gifted.

High intellectence - high origence: introverted, introspective, persistent, not very emotional, with a tendency to be asocial.

High intellectence - low origence: less introverted and asocial, more objective and responsive to others, more optimistic, orderly and well-regulated.

Low intellectence - high origence: extroverted, rebellious and impulsive, need immediate gratification, react emotionally rather than rationally.

Low intellectence - low origence: extroverted, social and gregarious, self-accepting and more conventional than the other groups, seek stability and distrust innovations.

Other writers have added to the picture of the gifted person and in particular have laid to rest some of the common misapprehensions held about the group.

Negative stereotypes of the gifted have long been popular. Child prodigies, the popular wisdom would have it, "burn themselves out", are physically weak and sickly and walk a tenuous line between brilliance and insanity. In fact there is no evidence to support these misconceptions - on the contrary the gifted maintain and consolidate the early leads they show over their peers, they tend to be physically as well as mentally superior and are more than usually emotionally stable (Whitty, 1930, Terman and Oden, 1951). The only qualification that should be added is that the available studies have concentrated on the easily identifiable high IQ child - it is still possible that future research involving highly-creative children, for example, may lend some support to the stereotype.

However, if genius is not akin to madness, that does not mean that gifted children do not differ in their interests and their behaviour sufficiently to set them apart from their peers. In some environments these differences may create special problems for the gifted child.

One of the ways in which gifted children differ from others most markedly is in the multiplicity of their interests. Terman and Oden (1951) found that gifted children typically have a great many hobbies, make numerous collections and pick up tremendous amounts of information about widely disparate subjects. At the same time gifted children show a tendency to immerse themselves totally in the topic of current interests to the exclusion of other activities and show a preference for working by themselves. While this sort of behaviour is not socially objectionable, it clearly can create problems for the gifted child in an inflexible school system. Traditional school systems tend to serve up knowledge in small, segregated packages, to stress a

"balance" of activities and to treat solitary habits as evidence of some pathological condition.

Another popular theory is that gifted children are not popular with their peers. There is some evidence to suggest that this notion does have a kernel of truth, where extremely gifted children are concerned. Gallagher (1964) found that gifted children on the average enjoy fairly high social status but children with Stanford-Binet IQs over 155 sometimes do find social adjustment a difficult task. The ability range most acceptable in schools, Gallagher suggests, probably lies between 125 and 155. Beyond the upper limit he cites five general conduct problems, first identified by Hollingworth:

1. To find enough hard and interesting work;
2. To bear fools gladly;
3. To keep from becoming negativistic towards authority;
4. To keep from becoming hermits;
5. To avoid the formation of habits of "extreme chicanery".

There is also some evidence that gifted children enjoy higher social status in elementary school than they do in later years (Martyn, 1957). Possibly this reflects the changing values of their peers.

As well as bringing a child into conflict with traditional school curricula, and possibly into conflict with his peers, the ability of the gifted child can potentially bring him into conflict with his teacher. It has already been suggested that the gifted child's solitary work habits may be construed by a teacher as evidence of a lack of sociability and lead either to well-intentioned efforts to "bring him out of his shell" or to criticism of his "unhealthy" withdrawal from his peers. Not all teachers would accept Gallagher's suggestion that the solitary work habits of the

gifted serve the function of preparing them for a life of intellectual effort that necessarily will be relatively solitary.

An even graver conflict situation can arise when a teacher feels threatened by a gifted child. Intellectually-endowed children may ask questions that teachers cannot answer and threaten both the teacher's self-image and his prestige. Teacher reaction may take the form of insisting that a gifted child follow to the letter the methods and content stipulated by the teacher. Alternatively, embarrassing questions may be shunted aside with a promise to "deal with that later". Again, gifted children may precipitate conflicts with their teachers by turning their talents in other directions and forming a focus of disruption for the class. This is especially likely to be the case with underachievers.

It is clear from this discussion that gifted children have behaviour patterns that may be at variance with the milieu of the traditional classroom. This can trigger conflicts which interfere with the full development of the talents of the gifted child. Removal of the elements of conflict, however, will not guarantee that these talents will be suitably encouraged. An environment that provides positive reinforcements for the development of talents is required if the gifted child is to be given the best chance of achieving at an outstanding level as an adult, and especially if he is to evince the precocity, or achievement at a young age, that is often found among the gifted. (It is interesting to note in this regard that the ratio IQ, which scores intelligence according to mental age, is in effect a measure of precocity.)

Precocity is more clearly related to environment than is adult achievement. A disadvantaged child may, as an adult, overcome the handicaps of his environment and perform at an exceptional level in an academic or artistic area. But it is virtually impossible for the child, no matter how gifted, to be precocious in an environment that offers him little opportunity or encouragement to practise his skills. Major advances in some fields, such as music and mathematics, are typically produced by young adults and even teenagers. In these areas especially, and probably in other areas too, the child who does not have the opportunity to be precocious may never achieve to his full potential.

Not only precocity, then, but total achievement over an individual's lifetime, may depend largely on the environment of his childhood, on the values held by the social group to which he belongs, and on the opportunities and reinforcements afforded him in different areas.

It is clearly beyond the power of school systems to shape the total environment of gifted children in a way that will provide the maximum encouragement for the expression and cultivation of their abilities. At the best, schools can hope to create only a partial milieu, designed to foster achievement. The values of the larger society beyond the school, and especially the values of the sub-culture in which the child develops will still play an important, perhaps a decisive, role. However, that does not diminish the necessity for the school to provide the best possible environment for the nurture of giftedness; indeed, where the values to which the child is exposed outside the school are inimical to the development of his gifts, it becomes even more vital that the school should provide support.

In this respect it is salutary to note that not all gifted children are subjected to the indifference and hositility that Mirman speaks of. Children whose gifts are athletic, rather than artistic or intellectual are practically guaranteed peer adulation, the encouragement of their teachers, financial support from their schools and other bodies, and parental pride and approval. Pressey (1964) has attributed to this differential support the fact that North America has turned out large numbers of outstanding athletes during this century, while producing relatively few great musicians and artists.

The phenomenon of the child prodigy, he maintains, is largely dependent on the support and encouragement forthcoming from the family and the larger social environment. Thus, Europe of the 18th and 19th centuries produced an unusual number of outstanding musicians because music was highly valued on that continent in that era. Practically without exception the great composers, such as Haydn, Chopin, Mozart, Schubert and Beethoven, were child prodigies who grew up in families which were intensely interested in music and valued it highly. These composers received all the necessary ingredients for the development of their talents: family support, early recognition by a society that valued their skills, and the opportunity to mix with leaders in the field despite vast differences in age.

If precocity is rare in art, literature and science in modern North American society, Pressey suggests, it is because environmental factors serve to inhibit the early development of skills. Schools will not admit children, no matter how precocious, until they reach a minimum age; small children with unusual intellectual skills are regarded as freaks; school curriculums stipulate that learning should be tied to

the chronological, rather than the mental, age of the child; when the child evinces the far-ranging interests typical of the gifted he is forced back into prescribed areas of learning; later, when the gifted child defines his own area of interest and wishes to investigate it intensively the schools and universities proclaim the merits of a "broad education".

All this, says Pressey, is in marked contrast to the environments that produced musical prodigies in Europe and that presently produce athletic prodigies in North America.

If Pressey's indictment seems harsh, it might be illuminating for us to compare the parental support, peer adulation and elaborate "star-grooming" system available to the promising young hockey player with the encouragement and opportunities available to the equally-talented mathematician.

CHAPTER III

PROGRAMS FOR THE GIFTED

When a school system fails to make special provisions for the education of its most gifted students certain fundamental goals of modern education are violated. Where educators agree that their aim is to provide equal educational opportunities for all and for every child the chance to realize his own potential to the fullest degree, it should not suffice that gifted children in ordinary programs perform at age or grade level expectations, or even slightly better. Just as we are obliged to provide the kinds of experiences that encourage the slowest child to develop his capacities to their maximum, so are we obliged to do the same for the gifted child who is easily capable of performing at levels significantly higher than the norms.

Special provisions for gifted children can be initiated by a regular teacher in an ordinary classroom, by a group of teachers or a principal in a school, or by educators serving whole school districts or systems. Programs can range from providing "enrichment" of the curriculum for the gifted in regular classes to the establishment of special schools. The first section of this paper will present descriptions of the administrative arrangements and teaching methods which can be used in gifted child programming.

From at least fifty years of attention to the challenges of schooling intellectually superior children, three main types of provisions - acceleration, grouping, and enrichment - have evolved, and the literature has been filled with examples and criticisms of procedures which generally fall into one or more of these three categories. In fact, as Hildreth (1966)

points out, the three are not mutally exclusive, but are instead interwoven. "Enrichment" is the catch-all for the curriculum modifications made to tailor education to the needs of the gifted. In themselves, acceleration and grouping do not constitute enrichment; rather they should be viewed as administrative devices that make it simpler, and sometimes less costly, to provide enriched experiences. What follows in this section of the paper is an extended description and discussion of practices in acceleration, grouping and enrichment, and in most cases it will be obvious that a program noted for a unique approach to grouping is successful not simply because of the grouping, but largely because of the enriched program facilitated by the grouping; thus there will be a considerable degree of overlap of programs deemed significant because of their use of acceleration, grouping and/or enrichment. Figure 1 presents the basic administrative arrangements that may be used for gifted child programming. (See Figure 1 on next page.)

Figure 1

THE BASIC ADMINISTRATIVE ARRANGEMENTS THAT MAY BE USED FOR GIFTED CHILD PROGRAMMING

I. Acceleration

A. Early Admission to the Education Program

1. Early Admission to Kindergarten or Grade 1
2. Early Admission to University

B. More Rapid Progress Through the Normal Education Sequence

1. Ungraded Primary Groups
2. Ungraded Intermediate Groups
3. Continuous Development Plans
4. Combining Two or More Grades
5. Advanced Placement Courses
6. Extra Courses for Extra Credit

C. Grade-Skipping

II. Special Grouping

A. Grouping Within the Heterogeneous Classroom

B. Grouping for Out-Of-School Activities

C. Part Time Special Grouping

1. Multitrack Programs
2. Honours Courses
3. Elective Courses
4. Special Enrichment Programs

D. Special Classes in Regular Schools

1. Classes Recruited From One School
2. Classes Recruited From Several Local Schools

E. Special Schools

III. Classroom Enrichment

ACCELERATION

Acceleration is simply a method of permitting the child to progress through school faster than the traditional lockstep approach would permit, and is already practiced to some extent in many schools that do not otherwise make special provisions for gifted children. The primary purpose of acceleration is usually considered to be the provision of suitable challenges for the gifted, by having him work at a level compatible with his mental age rather than his chronological age. But educators do not recommend simply pushing the child through the regular curriculum at a faster rate, without further enrichment, but rather suggest that acceleration should be used in conjunction with an enriched curriculum. One reason for this becomes clear when we consider that if the average gifted child were to be accelerated at a level fully commensurate with his mental age he would be promoted 2.8 years at age seven and 5 years at age eleven (Telford and Sawrey, 1967). Telford and Sawrey point out that the 11-year-old gifted child still lacks five years of life experience and almost certainly will not fit into a class of 16-year-olds. Indeed, these authors go further and suggest that mental age should be considered to overestimate progressively the potential of the gifted child as IQ increases. A solution is to correct mental age by some formula, and the accepted method is to subtract .3 years for each ten points by which the IQ exceeds 100. Even with this correction, however, most gifted children will still be working at levels below their mental age, even when accelerated by two years, which is the greatest acceleration that most educators advocate. Although acceleration is often considered to be a synonym for grade-skipping, it is only one of several forms of acceleration.

Educators generally accept the two year limit to acceleration (Goldberg, 1965; Gallagher, 1964). Within this limit the often expressed fears of parents that accleration will place harmful academic and social pressures on their children appear to be without foundation. After reviewing the literature on acceleration Gallagher (1964) found the empirical evidence quite clear:

> Probably nowhere in the educational literature is there such unanimity in the research results... (It is) very difficult to find any study which has reported, on balance, any negative effects of acceleration when the acceleration is done as part of a planned program and is limited to reducing the student's total educational program one or two years.

Goldberg concurs with this view (1965), saying there are no research results to contradict the recommendation made by Terman twenty years ago, that acceleration of "no less than one year and probably no more than two is the most satisfactory procedure for bright youngsters". Gowan and Demos (1964) note that the results of acceleration are generally positive in terms of the student's progress and accomplishments, and the acceleration appears to have very few detrimental effects on later adjustment.*

From these findings, then, the question arises, how best can we accelerate a gifted child? Types of acceleration traditionally include:

1. Admission to school before the child reaches the usual school age;
2. Placing gifted and other children in ungraded primary or junior groups, so that gifted children can advance out of these groups as soon as they are deemed to be ready; or
3. Combining two grades in one, or three grades in two - for example, at the junior high school level condensing Grades 7 through 9 into two years for gifted individuals or groups of gifted students;

* The general tenor of the study done recently in Scarborough (Hayball, 1971) is negative. However, one cannot tell from the report to what degree the accelerations discussed are "part of a planned program".

4. At the senior high level permitting gifted students to take extra courses that permit them to finish high school sooner;

5. Providing an advanced placement program for high school students, which allows them to take courses in high school for which university credit may be granted;

6. At the university level, certain qualified students may be allowed to take examinations to demonstrate their competence in specified subject areas; satisfactory grades on these exams would exempt the students from specific course or credit requirements;

7. Finally, grade-skipping or promoting children directly from one grade to a grade beyond that into which he would normally proceed.

Types of Acceleration

A. Early Admission

More than one study suggests that the sooner the acceleration is accomplished the better, and that kindergarten may be the best time to start (Hobson, 1963; Worcester, 1956; Reynolds, 1962). In 1922 eight children below the age requirement for admission to first grade were admitted to the schools in New Haven Connecticut, on the recommendation of the school psychologist. These eight students all moved through elementary and secondary schools with increasing success, and in reaction to this a policy of early admission for special students was rapidly expanded (Mosley and Cutts, 1957). A successful early admission program has been in operation in Brookline, Massachusetts since 1932. Children underage by no more than six months, chosen on the basis of qualifying intelligence, physical and psychological examinations make up about one-sixth of each entering class. From longitudinal data collected in the Brookline system, Hobson (1963) showed that children (specially selected by physical and psychological examination) admitted to kindergarten early showed academic superiority through their school careers.

Birch (1954) reported an analysis of the school adjustment of forty-three gifted children admitted early to the first grade in Pittsburgh, Pennsylvania schools. Three years after the early admission it was found that "in the overwhelming majority of instances the children were making satisfactory or better adjustment in the academic, social, emotional, and physical areas". A policy of early entrance for gifted children in the state of Nebraska has been admitting about 750 children on a yearly average, and the measures taken of that program's success are deemed by Worcester (1956) "...unequivocal. If a child is ready mentally, it is clearly to his advantage to enter school even though he be slightly younger, chronologicially, than the average". The School Council's (Ogilvie, 1973) research into special provisions for educating the gifted in Great Britain found that 55% of the teachers polled favoured admittance to nursery or infant school before normal age for gifted children, compared with 25% of the teachers who did not approve this policy. The teacher group was more evenly divided on the question of whether or not acceleration of 5 to 8-year-olds after their first year of school was desirable, 39% favouring and 37% disapproving that method of acceleration. In addition to those programs cited above, early admission to elementary school programs are in effect in the Hunter College Elementary School in New York City; in Urbana, Illinois, under the recommendations of the Urbana Service and Demonstration Center for Gifted Youths; in Minneapolis, Minnesota; in Alberta, Saskatoon, and Sweden. In Alberta some school boards have a double entry system which allows certain beginners to start school in September or January. Sweden has as a national policy a plan of entrance testing for all children before admission to school which allows gifted children early admission as well as delayed admission for slower children. Reynolds, Birch, and Tuseth (1964),

leaders in the research on the effects of early admission to school conclude that:

> ...although there are needs for further research, there are few issues in education on which the research evidence now available is so clear and universally favourable to a particular solution.

There now exists a wide gap between research and practice in this area, as most school systems still adhere to rigid admissions policies which fix the point at which a child may begin school at an arbitrarily determined chronological age. Early admissions programs allow for the fact that readiness for learning and for participation in a school program does not occur for all children at the same time. In addition, this type of early entrance to school is a plan by which the gifted child loses no school time; that is, there is no condensation, no rushing, cramming to make up for eliminated school hours.

A large number of the existing early admission programs have relied on IQ measures to select students although it is widely recognized that these alone are barely sufficient grounds for selection. Factors such as the child's physical, social and emotional maturity must also be taken into consideration. At the Hunter College Elementary School individually administered IQ tests are used in addition to an interview with the principal or an admissions committee and observation of the child at informal play with near age mates. Syphers (1972) notes that Hobson found the "difficulties of administering such an elastic system of admission include two considerations: the amount of work involved is considerable, and a generous supply of patience, tact and tenacity must be kept on hand. But then", she goes on, "these are the usual outlays in any new and desirable program".

B. Ungraded Instruction/Continuous Progress

Ungraded instruction is an administrative arrangement that profits slow, average and gifted learners alike. Children aged between 6 and 8-year-old mav be grouped together in a single three vear primarv unit, for which achievement goals have been determined. Older children mav similarlv be grouped into an instructional group covering goals for intermediate Grades 4 through 6. Children are allowed to progress through the acquisition of the required skills and knowledge at their own best pace. This makes it possible for a gifted child to do three vears work in less time, while a slower child in the same plan mav progress at a rate slower than the average. Ungraded instruction mav also be called the unit method, and a variation of ungraded instruction is sometimes referred to as continuous progress. Hamilton, Ontario operated under the unit method as earlv as 1957, discontinuing grades to the end of Grade 6. Three units with achievement goals for each were established in place of each grade. Promotion was then made during the vear from unit to unit as soon as a student was able to demonstrate competence at a particular level. While the average number of units taken was three, some gifted students were able to deal effectivelv with four, and sometimes even five in a vear. Children with learning handicaps comoleted less units than the annual average of three. The public elementarv schools in Universitv City, Missouri have developed a svstem for defining levels of achievement in each of the major learning skills for use in the primarv grades. Moving at individual rates the child can be accelerated in areas of particular strength, and at the same time progress at average or even slower rates in areas of moderate or weak abilitv. This plan is appealing when one appreciates that anv child, gifted or otherwise, has

areas of special strength and areas of weakness. Other forms of acceleration, such as grade-skipping, are not able to accommodate for the varieties of abilities within the individual child. The Chicago Public School System calls their ungraded program the "continuous development plan". This may be the best label for the method, because it reflects and points to the sound theoretical base which supports it. Jean Piaget, the Swiss psychologist of child development, has demonstrated that development is a continuous process characterized by movement through ordered stages which he has identified. According to Piaget, every child passes through every stage, in the same order, each at his own rate of progress. As the early admission policy recognizes that some children are ready to learn earlier than others, the continuous development or progress plan recognizes that some children can move through the stages of intellectual and personality development more quickly than others, some more slowly, and that each child should be encouraged to proceed at his own optimal rate of growth. In philosophy the Saskatoon public school system is committed to individual, continuous progress. If in actuality this policy has not yet been practiced by all the teachers in all the schools in that area, at least the systematic commitment has facilitated a wide variety of acceleration methods. Open plan school architecture lends well to ungraded instruction and continuous development programs, by allowing for flexible grouping and regrouping for instruction. Here the interface between acceleration and grouping is apparent, for the feasibility of ungraded instruction lies in part on the opportunity for group instruction based on ability rather than chronological matching.

C. Planned Acceleration

Another method of acceleration combines two or more grades into a lesser number of years. This plan resembles ungraded instruction in that gifted students move through the regular sequence of instruction in a shorter than usual amount of time. However, the combination of grades plans differs because the telescoping of school experience is usually fixed between two grades, and because by this method frequently groups of children are accelerated at once. This practice is seen most frequently in the junior high schools. New York City pioneered the practice with Rapid Advancement classes that began just after World War I in that city's junior high schools. Under the Rapid Advancement Plan, children in the top 15% of their grade groups were allowed to complete three years of junior high school work in two. After World War II, criticism of the plan as it has been operating led to more rigid admission standards, and at that time the program's name was changed to Special Progress. Three per cent of the junior high school students in Baltimore are in a program that allows them to do the three junior high years in two. Four Baltimore high schools serve 5% of the Baltimore student population, by offering advanced college preparatory courses in which the students can complete the equivalent of one year of post-high school work within the four year high school program. St. Louis provides an enrichment acceleration program for gifted children in Grades 5 through 8. These children complete the eight year curriculum by the end of their seventh year, in addition to taking advanced work in conversational and textbook French. In Grade 8 they study bas[illegible] ninth

grade subjects. Before admission to high school they are tested in these areas, and based on the results of the achievement tests they are given credits for ninth grade work. Six schools in the Borough of York, Toronto, report that they practice to a limited extent the acceleration of gifted children either by combining grades or by continuous promotion. In these schools the point at which the condensation occurs varies widely, one reporting that nine pupils will cover Grades 3, 4 and 5 in two years; another accelerates a child between Grades 2, 3 and 4; one school encourages gifted children to cover the first six years of school in five, while another encourages the gifted child to achieve the acceleration of one year sometime within the first seven years. Acceleration in the New York City high schools consists of allowing students to carry more than the usual amount of subjects, and by doing so earning the requisite number of units for an academic diploma in less than the usual amount of time. In this way many of the gifted students in that city complete what is ordinarily a four year program in three or three and one-half years. A special program at the Townsend Harris High School in New York was organized so that a selected population of gifted students all met the requirements for the four year sequence in three years. The Urbana Services and Demonstration Centre for Gifted Youths allows children who have "produced successfully at the elementary level" to complete their secondary education (Grades 7 through 12) in five years instead of six. In 1964 Wisconsin secondary schools were surveyed and it is reported that 12.2% of those schools allowed early graduation from the high schools (Sanborn, 1971). A survey conducted by Bean (1962) showed that 25% of a population of gifted secondary school students would finish high school in less than four years if allowed to do so.

The advantages of rapid progress through combined grades depend upon how systematically the acceleration is incorporated into the school system. In almost any case such acceleration will result in less cost to the school system, as the number of hours the pupil spends in the educational structure are significantly cut. However, it is not satisfactory, from the point of view of the students' best interests, to have the regular curriculum jammed into a shorter time period at the cost of the flexibility in programming which is essential to the education of the gifted. There is much to be gained by gifted children when they are allowed to follow lines of interest that emerge, unexpected, during the course of study. To ignore these avenues, in order to cover the content assigned to a particular grade level, is to do a disservice to the educational process. It is possible, however, for a curriculum to be revised or designed in such a way that it has the built-in capacity to capitalize on such emergent interests. The Core-Unit approach to curriculum is one example of how the above noted flexibility may be accomplished, and will be discussed later in this paper when enrichment methods are presented.

D. Gaining University Credits In Secondary School

Parents who are prepared to accept the acceleration of their children within the school system sometimes balk at them entering university at 16. Teachers, too, often have reservations about the social maturity of children who have been accelerated, and their ability to deal with college life. One solution to this is for gifted high school students to take college level courses taught by high school teachers, with a view to getting advanced

placement when they do enter college. In the United States there is a nationally organized and recognized program - the Advanced Placement Program - which facilitates this. The program not only provides curriculum guides for the teachers, but also sets national examinations which are accepted by a large number of U.S. colleges. Beshara (1970) estimates that in 1969, 46,000 students wrote 69,000 APP examinations. After reviewing the system he concluded that it was a success and that high school teachers were capable of teaching courses at the college level. "It has been proven time and again that high school teachers and their students can form an excellent team for doing college level work", he writes.

Students are selected for Advanced Placement classes on the basis of grades and teacher recommendations. Classes are generally smaller than the average, for example in Newtonville, Massachusetts the high school there reports that while the average class size for regular academic subjects is nearly 27 the average Advanced Placement class is slightly smaller than 20 pupils. Teachers of Advanced Placement classes are frequently given lighter teaching loads to enable them to spend more time preparing for these classes. The advantages of such a plan as the Advanced Placement program are several. Foremost, the stimulation and challenge offered to the gifted high school senior comes at a time in his educational career when he might otherwise be experiencing extreme boredom and lack of motivation brought about by curricula which are significantly below his abilities. Secondly, the

student is frequently fortunate to be able to complete college content in the setting of the small high school class which permits and encourages discussion and personal contact between teacher and students. That same student, taking an equivalent course in the university setting, would probably become one of tens or even hundreds of students in a large lecture hall, a situation that allows for very little of the personal involvement and individualized attention seen in the small class setting. Critics, of course, have found certain points on which the advanced placement program may yeild potentially negative effects. The list of hazards includes the fact that the prestige value of advanced placement courses may become of prime concern rather than genuine interest in the subject matter, or anything resembling a love for learning for its own sake. Also it has been pointed out that students eligible for advanced placement courses may avoid new and experimental courses offered at their high school, in favour of the advanced courses, and often at the expense of the success of the new course or at the expense to themselves of an experience which is potentially very worthwhile. Noteworthy models of the Advanced Placement Program at work include the Los Angeles City Schools, the Palo Alto Unified School District, Evanston Township High School in Evanston, Illinois, New Trier Township High School in Winnetka, Illinois, and the Newton High School in Newtonville, Massachusetts. There does not seem to be a program equivalent to the U.S. Advanced Placement Program operating in Canada at this time.

Acceleration is not necessarily the best course for every gifted child, nor should it be applied automatically. High IQs and high levels of creativity do not insulate children from unsatisfactory home situations, problems of motivation, emotional problems, and general problems of adjustment. If a child has the ability, has good motivation and is well-adjusted in other respects it is probably an injustice not to accelerate him; but if the child lacks motivation or is poorly adjusted, acceleration could exacerbate his problems. Yet, one more advantage of acceleration in addition to providing gifted children with suitable academic challenges should be considered. In some instances acceleration leads to earlier admission to colleges and universities, which in turn results in the student being able to commence productive work in his chosen field sooner. This is especially valuable to the student who is entering a profession which involves years of training, such as law or medicine, or entering upon a long course of post-graduate study. Constrained by the usual timetable of the school and the university, the professional is usually in his late 20's or early 30's before he graduates. Acceleration can appreciably lengthen his productive life.

In summary, acceleration can and has been practiced on all levels, from kindergarten to university. It has been proven to be a valuable adjunct to enrichment and grouping, and when limited to two years appears to have no harmful effects on the accelerated students.

GROUPING

The process of grouping children together on the basis of some certain ability or disability has been called by many names, including homogeneous grouping, multilevel or multitrack instruction, segregation, streaming, and ability grouping. It is a practice that has been advocated at different times in the course of educational history. In Cambridge in the late 1890s fast and slow tracks were introduced into the school system and other cities soon followed that path. In 1919, the Detroit school system initiated a program, made famous by its critics, which grouped children in the top 20% of a grade in "X" classes, those in the middle 60% in "Y" classes, and those in the lowest 20% group in "Z" classes - the XYZ program. Still in effect today is a program begun in Cleveland in 1921 called the Major Works classes. These classes were designed for intellectually superior children, and are organized so that they spend half their school day grouped together for instruction in the fundamental academic areas, and the other half with a mixed population of students from all ability levels, working in such areas as music, art and physical education.

Even more than acceleration, grouping children together is basically an administrative device to make enrichment simpler and cheaper, and should not be thought of as a method of enrichment in itself. Cornell (1936), Eckstrom (1961) and Passow (1962) all agree that positive results, favouring homogeneous groups, were found in those experiments that specifically provided for differentiation of teaching methods and materials for groups at each ability level. In general, where curriculum, methods, and materials were not varied, grouping failed to make any significant difference.

The major conclusion that can be drawn from the research is that grouping per se does not foster achievement and the relation of potential, but that when grouping is used in conjunction with a suitable enrichment program such benefits do result.

It should be remembered that North American schools have progressed from one-room school houses where all ages worked and learned together. Grouping children into separate grades according to chronological age was a first attempt at grouping children according to ability. Of course now it is apparent that chronological homogeneity does not guarantee homogeneity of intellectual ability, social maturity or even physical dexterity. In classes grouped according to chronological age and no other criteria the mental age as measured by IQ tests may vary by several years. One extensive study showed that on a number of tests of information 25 to 30% of Grade 9 students exceeded the average of Grade 12 students (Goldberg, 1965). Hildreth (1966) points out that "first grade pupils in a typical school vary in mental and development age all the way from 3 years of age to ten, with the most capable of them able to learn twice as fast as the slower child". With this in mind, it is not difficult to understand why many have assumed that grouping according to abilities would be the most efficient way of learning in educational systems where children are usually taught in groups of some sort. Yet Wrightstone (1957) points out a most immediate problem with that line of reasoning:

> ...Various measures such as intelligence test ratings, achievement in reading, average achievement in several subjects, or teacher's marks have been used as criteria for grouping. Experience and research have shown that any one of these factors when considered alone is seldom satisfactory. Moreover, several factors used together do not materially reduce the range of differences in a class of thirty or more. It is doubtful that any perfect combination of factors exists though various types of grouping within the classroom have value.

Interest is one factor contributing to achievement which is infrequently considered as a basis for grouping. The importance of interest in an area, however, has been demonstrated by Lazarus in a California high school (MacLean, 1956). There was formed, on the basis of interest alone, an "accelerated and enriched" class in reading and creative writing. The intelligence scores of participants ranged widely, the median score being 104. When the class was publicized in an article in a popular magazine many high IQ students sought admission to the course. These students had an IQ range of 110 to 150, with a median of 120. A comparison of the performance of the two groups showed clearly that the second group did not perform as well as the first, either in terms of the quantity or quality of literary output. It is to be appreciated, therefore, that while grouping may be a sound means of providing high quality experiences for special children, it is by no means a simple task to determine on what basis students should be grouped.

In addition to the problems inherent in finding the grounds for selection for special programs, there is the task of choosing the most suitable grouping scheme for a given situation. So wide a variety of grouping schemes are possible, that Shane compiled a list describing thirty-five different procedures. For the purposes of this paper it should suffice to differentiate among the five following types of grouping only:

1. Grouping within the heterogeneous class which involves the establishment of work groups within a regular class which puts children of similar ability together. These work groups may vary in composition for different subjects so that the child who is extremely able in arithmetic, but only average in English, for example, would be in the high-ability group for arithmetic, and in an average-ability group for English. Grouping within the heterogeneous class has been a common primary grade practice for instruction in reading, in a majority of school systems for many years.

2. Grouping for out-of-school activities based on interests demonstrated, or abilities demonstrated, and sponsored by the school, or by interested parties from outside the school, including parents, community agencies, professional organizations, and local citizenry.

3. Part-day special grouping placing gifted children in homogeneous groups for certain subjects or activities, while in other subjects they attend heterogeneous classes. Obviously the range here is wide; only one or two classes may be specially grouped, or almost all instruction can take place in special classes. This category of grouping accounts for special placement for academic subjects, as well as special placement for non-curricular activities. Grouping for non-curricular activities has generally been in areas such as dramatics, art, music, and physical education. Some school systems may offer courses for gifted students in academic areas that are not ordinarily covered in the regular curriculum, for example instruction in some foreign languages. Methods of part-day grouping include multi-track programs, honours classes, and special courses or seminars for gifted students in addition to many other arrangements.

4. Special homogeneous classes, an arrangement mainly suitable for schools with a large enough student body so that there are a sufficient number of students at each ability level to form high, average and low ability classes. In smaller schools and school systems it is possible for one school to serve the gifted of an entire district by taking qualified students from the district into the special classes set up in one school. Under this system the gifted would mix with the less talented only for non-academic tasks such as physical education, music, art and school-wide activities such as assembly programs, if at all. It is possible create by this method of grouping a school for the gifted within a regular school.

5. The special school for the gifted; ability grouping carried to its extreme. Where such schools have been established they typically have limited their enrollment to the top one or two per cent of scorers on intelligence and achievement tests. University laboratory schools sometimes approach this standard although the criterion for admission in these cases is not solely ability, but also family membership since it is mainly children of faculty members who are admitted.

Grouping is a controversial subject among educators, whether it is used to create homogeneous classes of slow learners or homogeneous classes of gifted children. Those who object to grouping gifted children together often voice the fear that such grouping is undemocratic, and that the gifted children, if they are separated from their less talented peers, will become a snobbish

intellectual elite. It is also argued that the special grouping of these children, especially in separate schools, prevents them (and their less gifted peers) from having the rich experience of participating in a wide variety of activities with a wide variety of people. Gifted children, with their significant capacity for leadership in heterogeneous situations, it is suggested, will have fewer opportunities to practice and develop leadership skills when grouped together. Another frequently heard argument is that if the gifted children are removed from regular classrooms, the regular classrooms will become less stimulating, to the detriment of the less talented. Finally, it is feared that in homogeneously grouped learning situations the special students may be overworked; in classes where standards of achievement are very high and pressures for success great students may be moved to do excessive amounts of work, may become discouraged, and worst of all may fall into patterns of underachievement. (The Scarborough study found this effect. See Hayball, 1971.)

On the questions of whether grouping creates gifted snobs and whether the children in regular classes are handicapped by the absence of the gifted from their classrooms, the research results are reasonably clear. Passow and Goldberg (1962) found that when gifted students were formed into homogeneous groups their self-estimates tended to go down, not up, and they perceived a greater disparity between their current status and the status they wished to achieve. As Goldberg puts it "instead of fostering snobbery and conceit, membership in the special class tended to take gifted students down a peg".

There seem to be no undesirable effects on the regular classes so long as teachers do not succumb to the temptation to lower the quality of their curriculum for the homogeneously grouped average and dull children. Indeed, in some respects, homogeneously grouped classes of average and dull children appear to benefit the children. Goldberg (1965) notes that a Michigan study found that slow-learning pupils contributed significantly more to class discussions and revised their self-concepts upwards when they were placed in a more homogeneous group. On this point it may be argued that by removing the more able students from an ordinary class the average and slow students will be more inclined to blossom since they now have a chance to be leaders and to excel in a way commensurate with their abilities. However, in the specific subject area of mathematics Provus (1960) observed that ability grouping profited only the high-ability children. Nineteen intermediate grades in a Chicago suburb were grouped for mathematics, eleven classes by ability and nine control classes heterogeneously grouped. Teachers all had the same preparation for teaching, and were randomly assigned to the experimental and control groups. "Only the upper ability experimental group achieved at a significantly higher level that the corresponding control group". This is consistent with all the research which has set out to determine the educational efficacy of grouping children with learning difficulties. Most of those studies lead to the conclusion that grouping handicapped students places them at a disadvantage (see Sussman, 1974 for a review of that literature). Perhaps grouping for instruction according to ability has the potential to be a positive force only in those situations where there can be no negative stigmatization associated with the grouping, either in the minds of the children involved or in the minds of the adults that deal with the children. Whether or not classes grouped to

exclude the gifted would become so stigmatized is not known. It is unlikely that negative stigma is ever connected with placement in a group for the unusually gifted.

A study by Goldberg, Passow, Justman and Hage (1965) supported the suggestion that grouping does not create animosity between the gifted and the regular students. The study, conducted in New York City, found that the attitudes of the gifted children towards the regular pupils did not change significantly after grouping was introduced, nor did the attitudes of the less-talented towards the gifted children change.

The other criticisms of special grouping cited above involve several different issues which must be differentiated if any evaluations made of grouping are to be meaningful. The first issue is whether or not grouping gifted children together encourages them to achieve at a higher level, and whether such grouping facilitates their instruction. Research findings in the area are clouded by the fact that grouping is usually used - as it should be - in conjunction with acceleration and different forms of enrichment. It is, therefore, often difficult to separate the effects of grouping from confounding variables. Both Eckstrom (1959) and Passow and Goldberg (1962), who studied the research on grouping found conflicting results. Eckstrom, for example, in reviewing 32 studies found that 13 favoured grouping, 15 could find no specific advantages of grouping, and five studies defied interpretation. The major conclusion that can be drawn from the research is that grouping <u>per se</u> does not foster achievement and the realization of potential; but that when grouping is used in conjunction with a suitable enrichment program such benefits do result. Without grouping proper enrichment becomes more difficult and frequently impossibly expensive.

> ...Even enrichment in the heterogeneous classroom leads to released time for teacher preparation and as a matter of fact, when carried out properly is one of the more expensive ways of taking care of the gifted, since it involves so much individual attention. By contrast, grouping is a much more efficient way of dealing with gifted children so far as overall cost is concerned.
> (Gowan and Torrance, 1971)

Having noted the arguments of those opposed to grouping, it is important to consider all the advantages that grouping gifted children together is claimed to provide, to determine the value of the practice, Proponents of grouping support it on the premise that only by working in ability groups can the gifted comfortably and effectively proceed at their own quick rate, without risking the potentially harmful effects of over-acceleration. That is, by working in a group of similarly able and aged students the gifted child is likely to be in a milieu that is intellectually stimulating, but not necessarily beyond his level of social or emotional development. This contrasts with the situation encountered when an individually accelerated gifted child is placed among mental age peers who exceed him in these other important aspects of development. Furthermore, it is suggested, that special grouping for the gifted permits such a child to work among peers who will be accepting and even positively impressed by his abilities, and who will serve to intellectually stimulate and challenge him. Finally, grouping able children together makes it feasible to hire a teacher trained specifically for the purpose of working with such children, makes rapid progress of the group possible, and generally makes enrichment activities solid since they can be incorporated fully into the class curriculum rather than being loosely tacked on to an otherwise full program, for the sake of a single gifted child.

Types of Homogeneous Groups

A. Grouping Within Heterogeneous Classes

Grouping children for instruction within the heterogeneous class is deemed more acceptable by opponents to special programming for the gifted than other forms of differential treatment for them. This may be due to the fact that small, within-class groups can be based on a wide variety of factors, ability one among the many. DeHaan and Havighurst (1957) suggest that three factors - size, composition, and duration - of ability groups are important considerations to be made when organizing them. A general rule, they say, is that the more outstanding the abilities are of certain children, the greater is the need for smaller groups; hence, children very much below and above average capacities should be served in smaller groups than children who are of average abilities. Children in heterogeneously grouped classes should be sub-grouped according to their abilities in specific subject areas, rather than grouping them according to some notion of general intellectual superiority or inferiority. Groups should endure only so long as they are working well and membership in specific groups should be flexible in order to allow for movement of children among them, when movement is called for.

Hildreth (1966) suggests that providing for gifted children in regular classes is most successful when other members of the class are capable, or when there are enough bright children to form a special group. Two school districts in California have incorporated this idea in their programming. The Los Angeles City Schools reduce the wide range of abilities within their regular classes by placing "cluster groups" of two to five or more gifted children in the same classroom with pupils of average to superior

ability. In the La Mesa-Spring Valley school district the clustered plan is utilized in Grades 1 through 8. All children identified as gifted are grouped at any grade level in one classroom and an equal number of lower mental range children are removed from that classroom and distributed among the classes. This grouping procedure makes it possible for gifted children to work in groups with their intellectual peers, and in certain ways profit from the advantages of special grouping with few of the disadvantages. The task then falls to the teacher to provide instruction and assistance geared to the needs of this special group especially, in addition to her usual task of providing instruction for the total class. In those situations where for every gifted child clustered in one classroom a slow child is removed, a balance can be achieved so that the teacher who is required to provide special instruction for gifted children is spared the additional work of also providing special instruction for slow children. She would need to provide instruction on two levels - gifted and average. Unless individualized teaching methods are used fully in the classroom, the more levels of grouped instruction a teacher is required to carry out, the greater her work load becomes. This is recognized in some high schools, where teachers in particular subject areas teach no more than two or three levels in that subject at any one time. If the elementary school teacher has a class grouped so heterogeneously that four or five levels of instruction become necessary, her job will be impossible unless she individualizes instruction. (A discussion of methods for individualizing instruction is included in this paper, in the section concerned with enrichment procedures for the gifted.)

B. Grouping For Out-Of-School Activities

It has been seen that the programs most likely to be successfully adopted by school administrators are those that are the least disruptive of the normal school organization. Another form of grouping that is least provocative to those opposed to segregation according to ability, and which may also be attractive to administrators who would rather add on to their existing program than alter it, is grouping of talented students for out-of-school activities. Out-of-school activities can serve to accelerate gifted children without sacrificing content - for example in the case of an advanced and intensive summer school course taken for credit on the high school level; or, they can enrich the child's experience without necessarily pushing him through the educational sequence more quickly, as in the case of summer programs for special interest groups which have no rewards in school credits earned. Certain kinds of programs are best suited to be carried out during summer holidays for a variety of reasons. In school systems composed of small schools the summer school arrangement may be the only time it is feasible to bring together small groups of gifted children from several schools to form a class. Similarly, when a small number of students in several schools have shown unusual skill in a particular area, they can be grouped together for intensive instruction in that subject during the summer. Syphers (1972) cites the example of a junior high school that brought students especially gifted in foreign languages together for six weeks of four hour daily sessions where the students were instructed in and encouraged to use the foreign languages while speaking with each other. Their studies included attention to the cultural, political, and physical aspects of the countries where the language is spoken, and exposure to native music, dance, food and similar customs was included. It is suggested that the "ideal conclusion for such a session would be actual foreign travel".

At the beginning of 1973 in Kaslo, British Columbia, the Kootenay Centre for the Gifted began operating, offering services to children, parents, educators, and any general public involved with the special circumstances giftedness produces. The centre's plans include conducting in-service workshops and professional upgrading sessions for teachers of the gifted. Kootenay also maintains a library which has information on any programs for gifted children or their teachers that come to its attention. Finally, and important in this context, the Kootenay Centre operates a summer Holiday Program for gifted children aged 6 through 13. Individualized assessment procedures precede the design and implementation of individualized programs for the children who attend the non-residential program. The philosophical base for the Centre and the Holiday Program is concern for providing supportive conditions in which giftedness may thrive, instead of being thwarted.

The Talcott Mountain Science Centre for Student Involvement has, since its formal dedication in 1967, provided outstanding enrichment activities for more than 40,000 students with special talents. Classes and special programs are conducted year round, day, night, weekdays and on weekends. In 1968 sixty gifted youngsters from Grades 3 through 8 were grouped into small groups and enrolled in a program called "Mountain Top Science". The groups had sessions in meteorology, geology, and astronomy, and children were encouraged to participate actively, constructing model rockets and small telescopes, growing crystals from chemicals, collecting and comparing rock specimens, and classifying the flora and fauna in their woodland surroundings, in addition to a wide variety of other tasks. The University of Rochester has worked cooperatively with Rochester high schools for many years, conducting

evening seminars and special summer programs that are given for gifted students free of charge, and for no credit. Colgate University has provided a summer workshop for intellectually superior students in Onedia County, New York, offering laboratory work in science and a combination foreign language-international relations program. In the Summer of 1963 a special school for high school students especially talented in academic as well as performing arts areas, from all over the state of North Carolina, was organized on the campus of Salem College. An eight week session was organized so that each child pursued studies in areas of primary and secondary interests, and in addition all students participated in twice weekly afternoon seminars based on the Great Books. The Govenor's School, as it is called, solicits children who are gifted by nomination by local educational authorities.

The Governor's School curriculum not only aims to provide an enriched educational experience but also pays attention to overcoming the feelings of isolation that gifted students sometimes have. The curriculum is concentrated in three areas:

1. About two-thirds of the students' time is spent in intensive study within the subject area for which they were nominated, concentrating on an in-depth, abstract approach;

2. Much of the remaining time is spent on epistemology, or the study of knowledge;

3. In addition to these studies, students examine the psychology of personal development. In classroom and counselling sessions they are encouraged to develop self-insight and to overcome the fear of their own abilities that is frequently found among gifted children.

The National Science Foundation has sponsored summer and Saturday science and mathematics seminars and research programs for high school students on many university campuses. In a survey conducted by the University of Wisconsin Research and Guidance Laboratory for Gifted Students (Sanborn, 1971), it was found that NSF programs were by far the special programming for gifted students most frequently cited by Wisconsin high school principals as being available to their gifted students, 48% of the schools having students participating in these programs.

The Saturday Morning Program is cited as a "key element in the enrichment program activities" available to gifted students enrolled at schools in the City of Toronto. Children accepted into this program attend an orientation day during which they meet the variety of course conductors and are familiarized with the courses which they may choose freely among.

> ...The Saturday Morning Classes have been designed to stimulate new areas of study and extend existing fields of interest. Courses have been offered in such varied subjects as Journalism, Law and Liberty, Computer Science, Human Relations, Film Production, Archaeology, Philosophy, Creative Drama, Psychology, Urban Planning, Astronomy, Space Sciences, Oceanography, Ceramics, Lost Cities and Vanishing Nations, Mass Media, Efficient Reading and Music Appreciation. (Furr, et al, 1972)

The effects of the Saturday Morning Program are claimed to reach even those students who do not participate in it, because of a structure that encourages feedback from the program by the students and professionals involved in it.

C. Part-Day Special Grouping

Part-time special grouping for gifted students can be provided by a wide variety of arrangements, which includes segregation on a regular or occasional basis. This type of grouping requires a greater amount of program reorganization and manipulation on the elementary school level than it does on the high school level because certain features of the traditional high

school organization, such as compartmentalization of instruction, and elective courses, facilitate ability grouping on a part-time basis. Despite the degree to which programs need be restructured in order to allow for part-time grouping, this arrangement for gifted children is one most frequently attempted and cited in the literature.

The Colfax School in Pittsburgh, Pennsylvania began its special program for gifted elementary school children in 1938, and since has served as a model for many other programs. The first attempt there to provide special programming was the scheduling of two-hour weekly sessions during which groups of gifted children in the upper elementary grades met with an enrichment teacher. This arrangement was found ineffective because of coordinating difficulties. Then a weekly club period for all students was organized, during which time the gifted students were scheduled for special enrichment classes. The problem with that approach was that the bright children were those most interested in joining club activities, and were keenly disappointed at being unable to participate in them. Finally Colfax found a successful format when workshops were established, one at each grade level from Grades 2 through 6. Gifted children spend half their day in these workshops studying basic academic subjects in homogeneous groups, and the other half-days are spent in heterogeneous classes where work is done in "those activities that are less likely to bring out individual learning capacity", for example art, music, drama, physical education, and community programs.

The Dade County Public School System works a similar program in reverse, assigning gifted pupils to regular classes for half-days where they do work in the basic skill areas, and for the other half day these children are homogeneously grouped to work with a research teacher whose job it is to extend their grasp of the basic skills through a variety of enrichment activities.

Ten per cent of the children in Grades 3 through 6 in University City, Missouri are enrolled in part-time enrichment groups which are led by special teachers. The program differs from the Colfax plan because the enrichment groups are more numerous, and because no strict line between academic skill subjects and other types of activities is drawn. Twice weekly, children meet in groups of eight to ten, with near age mates, for forty to fifty minute periods. Under the guidance of especially versatile and competent teachers, selected from the entire school system for exceptional professional talents themselves, the group undertakes study in areas of interest to the children. Often the enrichment group tackles subject matter not included in the regular grade work, yet sometimes work in the enrichment groups may be extensions of regular class projects.

The Palo Alto Unified School District has, at the elementary school level, an Interest Group Program which involves all children in each school in Grades 4 through 6. During a special period provided each school day (usually at the end of the day), interest groups meet with teachers or local adult sponsors. Academically able students are encouraged to join more academically oriented groups. The Los Angeles elementary schools have a Special Work Program for Rapid Learners which organizes groups of twelve to fifteen students for meetings one morning a week with special teachers who

provide extra enrichment for them. The Gifted Program in the public school system of Edmonton, Alberta draws fifteen elementary school aged children from the city at large in order to form small groups which meet for one day a week with the Gifted Program teacher. Three-quarters of the gifted program time is spent in structured activities, while the other quarter of the time is devoted to a wide range of free-choice individual projects. On the junior high school level selected students from all over the city are formed into small groups that also meet with the Gifted Program teacher, these groups for half a day per week. In addition the junior high school students have the option of attending a program at the computer centre of the University of Alberta for one other afternoon weekly. Exceptionally capable children involved in the program for the gifted in Portland, Oregon spend one-fifth of their time in specially grouped sessions.

One school in the Borough of York, Toronto, reports that the top fifteen pupils at each of three levels (Level 1 - Grades 1 and 2; Level 2 - Grades 3 and 4; Level 3 - Grades 5 and 6) are grouped together in regular meetings during the school day with "a view to stimulating oral discussion and broadening their outlook". The youngest group meets for one-half hour daily, while the older children meet less frequently, twice or three times a week. Another York school operates an extensive program of elective groups during the lunch hour, designed to enrich the school experience of all students. Most of the electives fall into the category of non-curricular activities, organizing such activities as a wide variety of athletics, crafts, and games. Included in the list of electives are, in addition, groups in creative writing, recreational reading, library study and newspaper production; gifted students might be encouraged to participate in these offerings since their special

capabilities are likely to be especially stimulated by such activities. It should be noted that this type of elective program borders on what is more commonly called a club or interest group program. Many schools offer clubs, usually during the hours just before or after the regular school session. Clubs are indeed a form of part-time special grouping, with the grouping usually based on interest rather than achievement according to a specified level or ability, and will be mentioned further in a discussion of enrichment practices.

An elective program in a more formal sense than that cited above is a type of arrangement facilitating ability grouping that is traditional in the secondary schools. Students, when free to choose among a wide range of elective subjects, are inclined to program themselves for those courses in which they are likely to succeed, whether by dint of a special talent for the subject or special interest. While this type of self-selection does not necessarily produce strictly homogeneous classes, the ability range of pupils is usually reduced significantly. Secondary schools also commonly provided multitrack instruction, that is courses offered for various levels of ability, which is a type of special part-time grouping. In many areas of the United States multiple curricula have been offered as high school students fulfill requirements for three different kinds of diplomas - academic, commercial, or general. In Ontario the optional Grade 13 system results in a type of tracking because students enroll in courses that are either preparatory for university education, or preparatory for business or trades. The curriculum at Newton High school in Newtonville, Massachusetts is organized into four basic divisions. Curricula III and IV

lead primarily to vocational objectives, while Curriculum I and II are for students who plan to continue their education beyond high school. The ultimate decision as to what curriculum to follow rests with the student and his family. Administrators have found this self-selection satisfactory, for even in those instances when a student has chosen to follow a curriculum beyond his abilities, the system is flexible enough to allow him to request and receive a transfer to a more suitable program if he experiences difficulties with his school work. Curriculum I is designed for the gifted students, and among these the most talented 15% are selected for participation in Curriculum IA, which offers them the opportunity to enroll in Advanced Placement classes. Most are permitted to take only one or two of these advanced classes, but the occasional very superior student may handle as many as five. University City, Missouri began grouping gifted high school students thirty-five years ago. On admission to high school students are classified on the basis of test grades and individual performance records, into three groups. The "A" group is for the most gifted students, and the teachers of these pupils are encouraged to develop a special course of study for them.

Many school systems offer honour classes in senior high, for students who have demonstrated special talent in individual subjects. Some schools operate honour divisions within their regular framework which groups students selected for academic superiority together for most of their instruction - this practice of forming a school-within-a-school is represented in several New York City high schools. In order to make this type of programming possible some school systems will concentrate their top ability students in one high school. At Forest Hills High School, in New York City, gifted pupils work together in advanced science classes. Honours classes in New York City high schools date from the 1930's. More than two-thirds of the general academic high schools organize special classes in a wide variety of subject areas. It is

possible to be enrolled in as few as one honours class and as many as five, depending upon how many courses the student is taking, and to what extent he is gifted in each subject area. The Portland, Oregon public schools feature seminars for very able juniors and seniors at the high school level, in academic fields. A highly selected group of Grade 9-11 pupils in Chitenham Township, Pennsylvania participate in a science and mathematics seminar program. Secondary school students in Palo Alto, California participate in small research classes, where the regular subject matter of standard courses is explored in new ways by the gifted pupils and their teacher. Two of the collegiate institutes in the Borough of York, Toronto, offer subject streaming; one school's French department offers six levels of classes at each grade, and the other streams students according to ability in Italian, and Economics, in addition to French.

A different type of part-time special grouping is in effect for nine gifted students at the Victoria Composite High School in Edmonton, Alberta. These students spend approximately one and one-half hours per day in the Gifted Program, which is a research-oriented plan that encourages them to analyze, organize and synthesize subject matter by participating in small group discussions, projects, and individual studies. Also in Edmonton, gifted students at the Harry Ainslay High School are grouped together for one period a day, to work with a special gifted program teacher.

D. Special Classes

In 1921 Cleveland established the Major Works Program, a plan for self-contained classes for gifted elementary school children. Here is an example of a program that recruits gifted children from a wide radius of schools to a centrally located one, for the purpose of having enough children to form a special class. Centres for the Major Works Program exist in more than one-third of the City's elementary schools, and in order to organize a new program a school need only demonstrate that it can recruit enough children to warrant it. The gifted children in this program remain together in classes which often group more than one grade level together (but not more than three usually), but have daily contact with members of the regular school program by participating in school-wide activities. The classes are kept small and are set up comparatively informally and with a permissive atmosphere.

In New York City two classes for the intellectually gifted were organized in 1922. Since then an extensive program of Intellectually Gifted Children classes has evolved. Two levels of gifted classes, in fact, allow for greater flexibility regarding the selection criteria of students. The "G" classes permit a wider range of students to qualify, while the "IGC" classes are most These self-contained classes are organized to make an enriched program possible on a group basis. The special program begins at the Grade 4 level, and continues through Grade 6. New York City's program of special grouping for the gifted extends to the junior high schools via the aforementioned Special Progress classes which group children in self-contained classes again, traditionally for purposes of group acceleration.

However, in order to satisfy the demand for special gifted programming which did not involve acceleration a three year SP program was organized in addition to the two year SP acceleration plan. One of the impetuses for providing the three year plan was the fact that many of the children eligible for special programming in the junior high school had already been accelerated in earlier school years. In keeping with the one to two year ceiling on desirable acceleration, it was necessary to provide a different form of programming for such children, and for any other children for whom acceleration was deemed undesirable. The three year SP maintained goals similar to those held by the IGC classes, enrichment made possible because of homogeneous grouping.

Saskatoon has provided special gifted classes in the elementary school grades for forty-two years. Presently there are eight classes serving children in that city, two at each grade level from Grade 5 through 8. Manitoba provided classes modeled after the Cleveland Major Works Program for Grades 4 through 11 for more than twenty years, but has discontinued them recently in favour of a program of continuous progress and individualization of instruction for all.

E. Special Schools

Ability grouping at its most extreme is exemplified by the special schools which have been set up to meet the educational needs of gifted students, and the special schools that operate in New York City exemplify some of the best organizations that exist for that purpose in North America today. Six secondary schools in New York City serve both the academically and artistically

talented children of that city; these are Stuyvesant High School, the Bronx High School of Science, Brooklyn Technical High School, Hunter College High School, the High School of Music and Art, and the High School of Performing Arts. In addition to these, the best known school for gifted children in the elementary grades is the Hunter College Elementary School, also in New York City.

Serving an area with a population in excess of one million, Hunter College Elementary School enrolls 450 children whose average IQ is 150. Admission is based on the results of individually administered intelligence tests and personal interviews. Generally an average class of twenty-nine children remains with one teacher for the entire first grade, and then after that the home room teacher assumes responsibility for instruction in "core" areas such as language arts, social studies, and mathematics only. The children go to specialist teachers for instruction in such areas as foreign languages, science, art, music and physical education for one or more periods per week. A meaningful amount of coordination takes place between the homeroom and specialty teachers, so that in effect the children experience the benefits of team teaching methods. Hunter College Elementary School prides itself on its positive exploitation of the wealth of educational resources that exist in New York City. The centres for the arts, business, and culture groups that highlight New York become an integral part of the educational program. Another aspect of this school that makes it exceptional is that fact that it serves as a laboratory school for Hunter College which operates a large and well-respected teacher education program. As the two operate on the same campus, the college provides additional stimulation and resources for the children who frequently visit the college's most interesting facilities, such as the art and music studios and science laboratories, and in addition certain facilities are shared.

Elementary school children take instruction in physical education, dance and gymnastics in the college's gymnasiums, with an instructor from the college.

The Bronx High School of Science is a co-educational institution open to qualified students living anywhere within the New York City boundaries. By allowing students from such a wide area to attend, the school ensures that it will be able to pick from the applicants some of the city's most talented students. One in four applicants are admitted. The school emphasizes competence in science and mathematics and will admit only those students who can demonstrate skill and mathematical reasoning ability on written examinations. In addition the applicant must have a satisfactory (superior) record of previous school achievement, a recommendation from the guidance counsellor, and finally parental consent. If it is in doubt, students are individually interviewed in order to determine that their interest in science and/or mathematics is genuine.

The school curriculum offers the entire range of subjects ordinarily included in regular academic high schools, and in addition opportunities to explore and develop interests in mathematics and science provide the raison d'etre for the school. It is estimated that the work load at this school is 20% heavier than the ordinary high school program. During the senior year ample time is provided for the students to investigate the areas of particular interest which have developed during the first three years of the program. Laboratory work is an integral part of each science course, and the school is equipped with sophisticated labs which make possible advanced experimentation for individual and group

projects. Students at Bronx Science are encouraged to enter a number of competitions in science and mathematics, and the faculty is most cooperatively involved in the guidance of these student projects. While the range of club activities organized at the school is wide, a large proportion of the clubs concentrate on scientific interests, and in this way are supplementary to the special science programs.

The High School of Music and Art offers a complete high school course for students from within the New York City boundaries, and specialize in providing programming to develop the exceptional abilities of its students in the areas of music and art. While 85% of Bronx High School of Science graduates go on to professions that lean heavily on their science and mathematics skills, only 10% of the Music and Art students intend to make music or art their vocations. The primary goal of the school, therefore, is to prepare its students for artistic leadership in the community.

In 1966 the Kentucky state legislature authorized the establishment of "a secondary school for the education of the exceptionally talented but culturally and economically deprived children of the Commonwealth of Kentucky". and so, on the site of what was formerly a college and secondary school for black students, stands The Lincoln School, a residential facility serving children from a most diverse population. Unlike the special high schools cited above, which tend to serve children from middle class backgrounds, the Lincoln School children come from depressed Appalachian areas, Louisville ghettos, and generally those environments least likely to produce academic

stars. Yet all these children have in common the fact that bevond their depressed achievement scores and intelligence scores, thev represent some of "the finest potential within their home school situations". The school is affiliated strongly with the Universitv of Kentucky, and thus involves much of the universitv's talents and resources in its programs.

Each of the grouping methods have practical advantages and disadvantages. Small schools mav have no alternative but to restrict grouping to that done within the heterogeneous classroom. On the other hand, large schools can feasiblv have homogeneous classes at each grade level, and some schools can do this bv instituting "honours" classes. The use of special schools for gifted children is onlv practical in large metropolitan areas where a sufficient number of gifted children are concentrated in a relativelv compact geographical area. A less extreme version of the special school, which groups gifted children from throughout a metropolitan area at one or two regular schools is an alternative wav to make the proportion of gifted within a selected school sufficientlv high to make homogeneous groupings workable.

ENRICHMENT

It is proposed that the gifted child has a system capable of digesting a richer educational diet than the child with average intellectual capacities. To satisfy his great appetite an enriched program of experience is prescribed. Enrichment is defined as "the type of activity devoted to the further development of the particular intellectual skills and talents of the gifted child" (Gallagher, 1964) and "more opportunities for (him) to go deeper and range more widely than the average child in his intellectual, social and artistic experience". (DeHaan & Havighurst, 1957).

It is a mistake to conceive of any child as some helpless, hungry, passive being waiting to be spoonfed a small, average or oversized meal. Piaget and other outstanding theorists in the field of child development assure us that children are not passive, that we do not have to feed them because if they are allowed they will feed themselves. What differentiates the gifted from the average and the slow is the quality and the quantity of what each extracts from any given stimulus. The organization in which ordinary curriculum is usually taught frequently restricts the gifted child's natural capacity for taking more out of a situation. Such classrooms cannot cater for the gifted child's deeper and wider interests as stimulated by the ordinary curriculum. In the same way, the traditional classroom organization does not provide for the fact that slow children take in experience more slowly, in smaller pieces. For the gifted child enrichment is prescribed, for the slow child remediation, both to correct a situation that arises because the regular classroom organization does not give children room

to be themselves. Would it not be better to prevent children from being under or overfed by organizing the classroom in such a way that each child is allowed to take as much as he can, when he is hungry, and permitted to select from a wide range of things that are good for him, those which interest him most? To expand the metaphor just one step further: providing enrichment is like stocking a refrigerator with the most delightful things, and inviting the child to partake of what he will. Allowing only the gifted child to enjoy the rich contents of a classroom refrigerator seems like granting unfair privilege. The question that must be tackled, therefore, is how can the teacher best organize her classroom so that every child obtains the richest diet he can handle?

Types of Enrichment

A. Individualization of Instruction for all Students

1. Formal Programs

Education must move in the direction of individualization of instruction, and this fact has been recognized by regular and special educators for many years now. To serve this end program designers have been producing at a steady rate plans for individually prescribed instruction in the gamut of school areas. "Precision-teaching" techniques, "diagnostic/prescriptive teaching plans" and a number of other techniques which involve gearing education to the needs of the child instead of some ideal (and non-existent) average student are available for the perusal of teachers who are interested. One example of such a program, which happens to be employed in Urbana with specially grouped gifted children, is the "Individually Prescribed

Instruction" plan (IPI) developed at the University of Pittsburgh. A continuum of sequential objectives defined in behavioural terms is developed for every level of instruction in reading and mathematics. A testing program which includes pre- and post-test procedures enables teachers to diagnose learning difficulties, and concentrate on specific objectives. The role of the teacher changes from that of a purveyor of information to diagnostician, a tutor, and most importantly a prescription writer, since individual prescriptions for instruction are written for each child at each level. Children learn to correct their own worksheets and their tests are scored immediately, in this way providing immediate feedback for the child. A school system seriously interested in adopting programs for individualized instruction should establish in-service workshops and seminars so that the teachers may be trained in these methods. Literature describing the methods of individualized instruction and all the formal plans which have been developed should be made available to any teacher who is considering attempting individualization in her classroom.

2. Informal Programs

In addition to formal programs for individualization of instruction there are many other things a teacher may do, ultimately to serve this end. Even a school as homogeneously grouped by ability as the Hunter College Elementary School, it is recognized that among those children with mental abilities ranking in the top 1 or 2% of the

population at large, a wide variety of skills and styles exist which must be accommodated by individualization of instruction to whatever extent is possible. Hildreth (1952) compiled a list of ways in which Hunter teachers work with children on individualized bases. These efforts may be applied to the instruction of children grouped in heterogeneous classrooms as well.

1. Through using child study techniques and guidance facilities for determining adjustments needed for individual variations in pupils.

2. Conferences with the individual children and advice in line with the disclosures of the conferences.

3. Helping children find individual outlets in various projects in harmony with their special interests and abilities.

4. Using diversified materials and instructional resources both within and outside the school.

5. Working with parents, interpreting the child's problems to the home, and making recommendations about home training; understanding the parents' viewpoints in child training and their interpretation of the child's behaviour.

6. Individual teaching and small group work conducted in various studies and projects.

A wide variety of materials is needed in any classroom where instruction is individualized, as a great deal of the burden for stimulation will be lifted from the teacher and placed on the learning environment, itself. The school resource centre and library then becomes an integral part of the instructional environment as do any community facilities which lend themselves to this purpose. Audio-visual media, such as educational television, which have been under-used in the school systems so far, can assume a more important place

in the instructional program as teachers learn to rely upon them for certain types of instruction and programming for individual interests. A student with a special interest in one area may find a television broadcast geared specifically to his needs, another may discover filmstrips that answer the question he has harboured for a week.

3. Independent Study

If given the chance, students will individualize their own instruction. Gifted children, especially, are likely to be inspired by classroom experiences to initiate learning projects on their own. There must be sufficient flexibility in the teacher's framework to allow different children in the same classroom to learn different things based on their own independent and self-initiated activities. What one pupil learns may be shared with others through a wide variety of presentation forms. The most gifted children can be challenged to find novel ways of presenting what they have discovered; for example a student may be asked to communicate what he has found out, without using words. Independent study is the sophisticated form of self-initiated learning, and has been incorporated into many university programs. Students at the university level have been allowed for many years to make contracts with sponsoring faculty members, which specify objectives of the study and procedures for the evaluation of the project. The secondary schools are using this plan most frequently with gifted students. Independent study methods may not immediately

be suitable to children who have spent the bulk of their scholastic lives in the regular educational system (Prunkl, 1972), it is important that this type of individualization begin early in school careers. The amount of structure to be imposed for any project should be determined individually for each student.

Hildreth (1966) states that the brighter the child the more capable he is of independent study and the more he will profit from it. At the Hunter College Elementary School the training of students in independent study habits begins in the earliest grades. Then while students work on various individualized projects teachers are free to move about the classes, giving help as needed or working with small groups. In classes where periods for independent study work for the entire group are not feasible, gifted students can be allowed and encouraged to work on their own when they have completed the regular class assignment before their classmates. Also when it is obvious that the scheduled group instruction is in an area in which the gifted child has already demonstrated adequate competence, he may be excused from the group instruction for the purpose of continuing his independent project. One principle of enrichment for gifted students obliges the teacher to "excuse" the student from work that will not be of value to him. Some of the values of independent study cited by Hildreth (1966) include the opportunity to undertake advanced studies, the development of initiative and originality in research, and close rapport between students and faculty members.

4. Using Human Resources In The Community

Indeed guidance for independent projects must be provided by a faculty member who can, with the student, evaluate the progress made and the final products of the project. At the elementary school level, and perhaps in junior high schools a major difficulty in meeting the needs of gifted children lies in finding teachers who are sufficiently well versed in the wide fields of interest that may be central to a gifted child's inquiry. The problem is less acute in high schools although even here the depth at which gifted children may work is likely to carry them beyond the teachers' knowledge. One solution is to invoke the aid of outside resources, such as university faculty, or experts in particular fields. Some children may be introduced to sponsors who are expert in the subject areas they wish to explore. Contact with the sponsor may be intensive or quite desultory, depending on the needs of the situation. Although community sponsors are often suggested, and the community does serve as a valuable resource in most enrichment programs, expectations that members of the community outside the school will play an important part in organizing enrichment and independent study programs have not always been borne out (Prunkl, 1972). A regular and structured program by which the community resources may be integrated into the school organization needs to be established. This way channels for contact will be clear, and time will be spent more efficiently.

One aspect of setting up a formal cooperative program with the community that should be explored is a cooperative program between a

school system and the Psychology Department of a local university when there is one. In the recent past, many professors of Educational and Child Psychology have encouraged and even required that their students gain some practical experience in the world of knowing children, and to do this many university students have come to the public schools asking permission to enter them - some as observers, some as volunteers. In too many cases these requests have resulted in more harm than good, because the students were acting independently, without any formal provisions for insuring that their presence would not be disruptive, and that they would be providing some valuable assistance to the school system in return for the school's cooperation. If however, all this university student energy could be channeled in such a way that students are directed to those schools and those situations where they will be appreciated, a most valuable resource will have been found. For example, university students may serve as sponsors for the independent study projects of gifted children when their backgrounds qualify them in the particular area of interest. Also these students could serve as sponsors for a wide range of special interest groups for gifted children, that could meet either during the school day or after it. It is important, regardless of how the students are employed, specifically, that their involvement be well-coordinated with the school system, that their responsibilities be clear to all, and that they feel they are providing a worthwhile service. It should be noted that the same university students who sponsor, say, an interest group for gifted

children for one part of a term, may supervise a remedial group for learning handicapped children for the second half of the term. In this way their exposure to the abilities of children is broadened, and a wide range of children are given greater opportunities for learning. These students should not be used in capacities that bore or demean them, because such exploitation would guarantee the failure of any cooperative program.

Regarding all those specialists whose aid may be enlisted by a school seeking to enrich a program for gifted children, or all children, Renzulli (1970) suggests:

1. Advice and guidance for the gifted child should be a cooperative effort of teachers, academic scholars and education specialists.

2. The role of the education specialist is to apply knowledge about modes of learning and to produce a suitable format for the material which interests the student;

3. The role of the teacher is to make sure that programs produced by the specialist are realistic and to transform the program and the materials into a form appropriate to the student's level.

4. The role of the academic is to guide the student to the factual resources relevant to the area, to outline the methods of inquiry suitable to the area, and to identify the structure of knowledge in the area.

It would be blind to expect all teachers to immediately alter their methods and adopt a plan of individualized instruction, in which the needs of all their students would be best met. This is why researchers and writers in the field have come to use the catch-all "enrichment" to signify that something different must be

done for the gifted child. This paper would not be complete without a consideration of those enrichment methods suggested in the literature, although it is the opinion of this writer that individualization of instruction for all is much more meaningful than enrichment for the few.

B. Special Enrichment for the Gifted

Special enrichment programs for the gifted tend to have at their base the goals of providing these children with skills in the methods of learning and knowing rather than in acquiring packages of facts. A major part of many enrichment programs involves teaching gifted children techniques of research, both in the library and in the field, encouraging critical thought and analysis, and equipping the student with the means for sharing his findings with his associates.

Two different approaches to curriculum planning are suggested for the gifted, and the two appear to contradict one another. Unified Teaching, otherwise known as the Core Approach, or Unit Teaching, provides for the study of basic issues without confinement to one particular subject matter area: an interdisciplinary approach. A curriculum unit can cut across several subject fields, and instruction in the specific subject areas can be motivated by tasks that emerge from the unit. The positive value of such an approach for gifted children lies in the fact that they may be encouraged to develop their own special projects as suggested by a unit. These special

projects can enrich the gifted child's experience in depth, by delving more deeply into a particular area than regular students are wont to do, or in breadth, by exploring areas that the regular students do not approach at all.

Gallagher (1964) on the other hand, suggests that content skills derived in such an approach as the Unit Method are too diluted for the gifted student. He suggests that gifted students are capable of dealing with subject matter that is more complex and abstract, and they should be given it straight, although he proposes that the traditional emphasis on the accumulation of facts should be replaced with stress on the central fabric or structures of content areas. In other words, he recommends that teachers of the gifted organize their teaching on the basis of teaching concepts, fundamental principles, basic laws. The rationale behind his approach is that the more fundamental or basic an idea is, the greater is the breadth of its applicability. Mathematics instruction for the gifted would concentrate on the early introduction of basic mathematical concepts such as the commutative law, the associative law, and the principle of inverse processes. Based on Piaget's claim that children can operationally understand concepts before they are able, necessarily, to state them formally, he suggests that exercises should be provided to give the child contact with the basic phenomena at the earliest possible occasions. Hendrix's (1961) method of instruction, Guided Discovery, is also based on that claim of Piaget's. The teacher presents her students with examples which will illustrate some of the

elements of a certain concept that she wishes them to learn. Students are presented with a sufficient number of these examples so that they begin to formulate for themselves the generalizations that lead to the discovery of the concept. The formulation of these generalizations is not marked by statements of them made by the children, because as Piaget suggests they may be making them and using the concept, before they can state them formally. Rather, students demonstrate their understanding through the application of their ideas to new problems.

The success of an enrichment program within any classroom ultimately rests with the teacher and the administration that can support her by providing the materials she requests in order to conduct her program. If the teacher is resourceful and creative, and genuinely interested in providing enrichment activities for the gifted children in her class, there are an infinite number of possibilities open to her. Libraries are filled with books which are filled with lists suggesting enrichment activities for every age group, in every content area. These activities will work only if the teacher is able to incorporate them into her overall classroom scheme. Some examples of the type of enrichment activities suggested in the literature may be helpful here, but it should be remembered that these are but a few suggestions out of thousands, and the creative teacher should be able to devise on her own activities perfectly suited for her students by applying her imagination and ingenuity to her knowledge of the interests of her students. The examples given

below are broken down into major subject areas:

1. Subject Areas

Arithmetic: Studying the metric system and explaining it; constructing abacuses and learning to add, subtract, multiply and divide on them; applying arithmetic methods learned in the classroom to real data, such as community taxation problems; exploring other number systems such as the binary system; introducing probability theory at an intuitive level by having children throw dice or toss coins (Page, 1959); introducing notions of formal logic (Suppes and Hill, 1962); investigating prime numbers and the arrangement of factors; testing standard rules for divisibility (e.g. by 2,3,4 and 9) and trying to explain why they work. The general principle in most of these tasks is to encourage the gifted child to carry out his own inquiry and draw his own conclusions. Some of these principles are embodied in the new maths. In mathematics at the secondary school level the same principle is applied, with concepts that are usually taught only at the university level being introduced. Suitable investigations here would be calculus, the nature and role of deductive reasoning, properties of rational, real and complex numbers, and non-Euclidean geometries. Clearly not all teachers of arithmetic and mathematics have the in-depth knowledge to cope satisfactorily with these topics. A teacher-consultant, who does not necessarily need to have any teaching experience himself, but who does possess the expert knowledge required,

should be available to advise the teacher and the student.

Language Arts: Languages provide a ripe field for enrichment. One of the more common methods for enriching language instruction for the gifted student is to introduce a foreign language at an early stage. Other methods include: editing and publishing a class or school newspaper; creative writing courses or clubs; reading and writing reviews of books of the students' own choice; a consideration of the structure of language; a consideration of the role played by language in society; encouraging students to write to the authors of books which particularly interest them. Enrichment can very often consist of guiding the gifted children towards reading new materials and producing new forms of verbal and written output such as stories, articles and poems.

Science: Enriching science curricula is most easily done by devising suitable projects which the gifted children can work on, either individually or in groups. With suitable guidance gifted children will very often come up with projects of their own. The teacher's contribution may be limited to suggesting resources and helping the child to delineate a suitable area of the subject that interests him. Projects have included such things as: a study of weather phenomena; identifying local flora and fauna; explaining the functioning of household appliances; astronomy; the building of models to illustrate the movements of bodies within the solar system. At

the secondary level rapid advanced in areas such as space technology, electronics, biochemistry and lasers make it a virtual certainty that even the best-informed teachers will eventually be confronted by gifted children tackling a project that exceeds the teacher's own resources. Resource persons and consultants then become a necessity; liaison with universities is especially useful in this area.

Social Studies: The immediate relevance of the social sciences and the complex interrelationships between areas such as economics, history, geography and psychology made this an especially appropriate area for enrichment. The gifted child's ability to integrate information should be exploited. Suggestions that have been made for suitable enrichment programs include: comparing early transport routes with the placement of modern road systems, railway lines, and air routes, tracing local demographic movements; seeking to explain events from one field (e.g. historical events) in terms of the concepts of another field (e.g. economics or geography); considering the history of countries in terms of their institutions; using materials such as historical novels, the collected letters of historical figures and newspaper files; investigating the history of such things as money, weights, and measures; preparing short biographies of the lives of famous people.

2. General Enrichment Activities

The subject-bound enrichment activities listed above have been tried and proven valuable in many classrooms. Below is a list

of general enrichment activities so far undemonstrated to our knowledge. It is believed that the activities on this list are likely to stimulate gifted individuals.

Sign Language: Of all the foreign languages taught to the gifted in our public schools one language commonly spoken by a significant minority in every country, is regularly ignored. The manual sign language of the deaf has the potential to become a universal language. Reports of interrational conventions of deaf people are most exciting when they give accounts of people from different corners of the globe being able to adapt their signs so that in two days time everyone can speak fluently with one another. Sign language is challenging and exciting for hearing people to learn, and this in itself makes its study valuable. In addition, there is much to be learned about the structure of languages and communication from the study of sign. Furthermore, the gifted student can gain much from a consideration of what types of information he gets from each of his senses. A study of sign language leads naturally into a consideration of now things would be different if one could not hear, or see, or taste or smell. Such an investigation would be a most expansive experience for the gifted person.

Sensory Training: Gifted children should be encouraged to take as much out of their experiences as they can. To serve this end it would be useful and exciting to engage these children in exercises of their sensory apparati. How much can they see, hear,

smell and so forth? An exercise in the form of a game could reward children for the acuity of their observations. In this way, they can begin to understand how rich the visual world is for the painter and photographer, and how rich is the world of sound to the musician.

States Of Consciousness: Every child knows something qualitatively different is going on when he is asleep, and when he is dreaming. Children enjoy talking about their dreams. Scientists are beginning to acknowledge that something qualitatively different is going on when people have parapsychological experiences - experiences of extra sensory perception, and mental telepathy, for examples. It is not necessary to believe for certain, that a wide variety of states of consciousness are possible in order to investigate the question. In fact, before one makes such a decision of belief it is only reasonable that he consider all the facts and facets of the issue. Gifted children can be inspired to a heightened degree of interest in the way they and others around them experience the world by investigating reports of unusual states of consciousness. Science fiction and science fact can be incorporated for this study. Experts in the techniques of meditation and yoga may be called in to give demonstrations and talks. Persons who claim to have had impressive religious experiences can be invited. Psychotherapists may be asked to present their understandings of man's conscious and unconscious.

Exchange Program: What would it be like to be someone altogether different? All children, and probably most adults entertain this question at times in their lives. Gifted children should be provided with opportunities to gain a better understanding of what other peoples' lives are like. To help them in this direction exchange programs might be instituted with the help of cooperative parents and teachers. Children from the same school but widely different backgrounds may exchange places for a day and night, or even for a week. This experience should include trading places in the home as well as in the classroom. Students may exchange places across a city, or a program might even be coordinated to enable city children to change places with farm children. At the end of the exchange the partners would have interesting and valuable observations about what it must be like to be one another, and by sharing these observations the children will learn more about themselves as they learn about others.

Apprenticeships: Because gifted children are capable of picking up new material more quickly than their classmates it is possible for them to miss small amounts of classroom instruction time with no serious consequences. A valuable experience for gifted children would be opportunity to serve in mini-apprenticeships to adults in whose work they are interested. In order for such a program to be possible a group of cooperative "Masters" would have to be formed, and a reasonably structured apprenticeship program

would have to be organized. Masters could be recruited from among the parents, or local business men and professionals. The mini-apprenticeships could last a day, a week, or longer. The child apprentices would bring back to their classes reports bound to stimulate discussions and projects for a long time.

Special Speakers: A committee of gifted students could be formed for the purpose of arranging a series of special presentations by representatives of a wide variety of fields. This could be a regular on-going program in the school, and speakers could be brought in frequently (instead of the once a year special program). The guest could meet with a selected group of students, or he could make a presentation to the entire school in an assembly program. The format of the presentation could be modeled after the television series, "Under Attack" minus the aggressive antagonism. That is a panel of gifted students could conduct an interview in front of the large audience, and then students in the audience could be called upon to ask questions. Coming speakers should be announced well in advance of their presentations so that interested students can arrange to attend the presentations. Teachers should make every effort to allow students who express a genuine interest in a special program an opportunity to participate in that program. For instance, if a student in one Grade 5 class is reporting on his special study of the dances of Canada's native peoples, any student in the school mature enough to get something out of that presentation, and genuinely

interested should be allowed to attend that presentation.

School Newspaper: One way that a special speaker program might be publicized is through a regularly published student produced newspaper. In addition to announcing guest speakers coming to the school, the paper could publicize any special presentations that will occur within regular classrooms. Of course, the school newspaper would serve other functions in addition to that of events forecaster. Every class could elect a reporter, and every reporter could have a special interest assignment. Other schoolwide publications that provide valuable enrichment for the children who participate in their production include literary journals and yearbooks.

Resource Rooms: Many schools are currently setting up resource rooms to give part-time assistance to children with learning handicaps. The potential for using these rooms and the resource teachers for the enrichment of the gifted child's program should not be overlooked. Two ends could be accomplished by such a move - providing enrichment opportunities for gifted children under the guidance of trained specialists, and insuring that the resource rooms do not assume the negative stigmas which have been previously attached to any special facility for children with learning exceptionalities.

Media Understanding: Care must be taken to see that the gifted child is educated to understand how the communications media of today help to shape the world. It is likely that the gifted child

will enjoy reading, but it is equally likely that he will be exposed to the influence of television and film nearly as much as average children. He should learn to develop, therefore, media aesthetics, so that he can discriminate between quality programming and poor programming. A special study group could be organized to investigate how the media influences children. One example of an instance where such investigation has already occurred is those children who have been involved in the campaign to censor and otherwise control advertising on children's television.

Clubs: Interest groups and clubs are hardly a new idea in education. Most of the schools in the Borough of York, Toronto, listed more than one club that was part of their curricular activities. By far the most popular are chess clubs reported by fifteen schools. Athletic clubs followed chess in frequency, and an equal number of schools had choirs and crafts groups. Teachers should be encouraged to share their special interests with students in the school, and a wide range of activities should be sought. In addition to forming clubs on the basis of the interests of the sponsors, student interests should be sufficient motivation for clubs to form. When there is no adult sponsor with a background in the area of interest the children may be allowed to take responsibility for obtaining whatever information is needed in order to pursue the area. In this case the adult participating will be limited to a supervisory capacity.

CHAPTER IV

PLANNING A PROGRAM FOR THE GIFTED AT THE SYSTEMWIDE LEVEL

If the schools are doing everything possible to provide the best educational opportunities for each child, then the gifted program is already begun.

> ... The program for the gifted should be a suitable capstone of a strong, effective, and seemly educational arch, not a glittering mansion in an educational slum. (Gold, 1965)

This is not at all to say that when building up the best educational system possible the special interests of the gifted should come last but not least. On the contrary, whenever the needs of the most gifted students appear to necessitate the establishment of a special program to provide for their exceptional capabilities, educators must quickly follow the path that will most efficiently lead to the organization of such a program lest important talent go wasted or, worse, be destroyed. A program for the gifted can be initiated at many levels within the school system: the regular classroom teacher may recognize that one or two of her pupils need something different, and may set out on her own to provide that difference within the limitations of the ordinary classroom; a principal may, from his own observations, or on the urging of his teachers, decide that a special program for the gifted students in his school is warranted, and he may plan to make the administrative arrangements within his school that will best allow his gifted pupils to develop. It is hoped that the descriptions of special programs and methods for instructing the gifted given elsewhere in this paper will encourage those teachers and principals so inclined to make first steps in the directions that will help the gifted children they are responsible for. The most effective level at which a

special program for the gifted may be initiated, however, is the systemwide administrative level, because decisions made here will affect the educational experiences of the largest number of pupils, and because possibilities for articulation of special procedures among schools are strongest when the efforts come from the highest offices. This section of the paper, therefore, will be concerned with how a school system may attempt to develop and inaugurate a gifted program on a systemwide level.

At any level of organization that a gifted program is initiated the support is required of all persons likely to be affected in any way by the new program. On the systemwide level it is obvious that the support of the chief administrative officials and the local trustees will be crucial. It is less obvious, but equally crucial that the efforts be supported by influential local laymen, for it is within their power to create groundlevel support, or groundlevel opposition, which, in the latter case, will practically insure program failure before even a paper policy has been born. If support of the highest level decision makers, superintendents and trustees, can be assumed, the first step in planning suggests Hildreth (1966) is to evaluate present educational offerings and facilities "to determine how far the school is already prepared for some special effort on behalf of bright children". Such an investigation may yield hitherto unrealized facts, for example that certain teachers have been experimenting with enrichment techniques in their own classes for gifted indivduals, or that one principal has already established a special grouping for gifted students that meet with him regularly for experiences in, say, group dynamics. It is important to find this out,

because these educators and these small efforts are bases to be expanded upon, supporters to be enlisted, and innovators to be included in the systemwide establishment of a program. An initial planning group, whose members include teachers, administrators, and interested laymen, can be organized to conduct the first investigation. The meetings of this initial planning group should be called partially or entirely on school time, and a comfortable meeting place where refreshments are served should be provided. In this way, DeHaan and Havighurst (1957) suggest, the importance of its work will be communicated to the committee, and in the long run will pay off in productivity. During a program "readiness" phase many people will want to express and expand their points of view, and books and articles dealing with the education of gifted children should be made available to the people participating in the establishment of the new program. Kough (1960) suggests that during this period it may be worthwhile to distribute to all teachers and principals descriptions of the various administrative provisions that may be used for gifted instruction along with a questionnaire that asks them to indicate which method they feel is most appropriate for their school system.

In the exploratory phase of the initial planning the questions that should be asked by committee members include:

> ... To what extent are the needs of the gifted being met? What courses and subjects are already being given in the schools that lend themselves most readily to the education of the gifted? What changes need to be made in the local educational policy? (DeHaan & Havighurst, 1957)

Subcommittees may be formed to give special attention to various aspects of the problem. These committees should include representatives of all those groups of persons involved in the program's establishment; that is,

top level decision-makers, school principals, teachers, laymen, and potential opponents to the program. It is important to include some of those who may be the most vocal critics of such a program early in the planning so that their criticisms may be constructively channeled.

Initial planning must involve a theoretical foundation. In this situation we cannot know what to do before we know why. A workable definition of giftedness must be arrived at, and a wide variety of superior capacities, traits, and talents should be provided for. Goals for the program must be consistent with what the school, the community and the nation wants for its children. A clearly reasoned philosophy which includes the objectives of the school system in general, and the goals for gifted children in particular, should be articulated. To help towards this end the consultation of experts at neighbouring universities and provincial education departments may be enlisted. DeHaan and Havighurst present a set of questions that may be used as a guide to thinking through the problems of beginning a gifted child program. (See Figure 2 on next page.)

Figure 2

QUESTIONS TO GUIDE THINKING THROUGH PROBLEMS OF BEGINNING A PROGRAM FOR THE GIFTED

from Educating Gifted Children, by R.F. DeHaan and R.J. Havighurst (1957)

I. What administrative provisions are needed?

A. What personnel in the school should be responsible for the program?

B. What budget provisions need to be made for the program?

C. What policy statements need to be made?

D. What materials and facilities must be provided to teachers to carry out the program?

II. How can teachers and administrators be prepared for work with gifted children?

A. Should workshops or some kind of in-service education be provided for teachers and administrators?

B. Should in-service education be established on an all-system basis or on a school-by-school basis?

C. Should some teachers or administrators be given special training?

III. What educational and administrative procedures should the school use for the development of talent?

A. Should classroom enrichment be the primary focus? If so, what materials and assistance need to be provided for the teacher in order to carry this out in her classroom?

B. Should special groupings be used within the classroom, within a single school, or within the school system? If special classes are to be set up within the school system as a whole, what provisions should be made for transportation, training teachers, explaining the program to parents?

C. Should gifted children be accelerated? If so, how should this procedure be administered?

IV. How should the community be related to the program?

A. How can good public relations be maintained with community groups?

B. How can the good will not only of parents of gifted children but of other parents as well be won and maintained?

C. How can community agencies and persons be used in the program?

In the second phase of planning, a program supervisor may be appointed. His job would be to circulate ideas, suggestions, and plans among the district schools, coordinate local efforts, set up in-service workshops for teacher training, and help solve any internal human relations problems that may impede the progress of the program.

The next stage is the inauguration of a pilot program that will test out the planning and thinking that has been done so far. The pilot program should involve where possible those teachers and principals who first showed enthusiasm for a special gifted program. One or more schools will become demonstration centres. A steering committee of teachers may be formed in each school where the pilot program operates, and then later, as more schools are incorporated into the project, each school may appoint a committee or person who will coordinate the program for the gifted at that school. Of course, this committee must be comprised of persons who are enthusiastic supporters of the program or else the infant program will not get a fair start. This brings us to the problem of how teachers are to be oriented to a new program that may threaten to burden them with an increasing work load. It is suggested that one of the best ways to introduce the teachers to the new program, en masse, is by means of workshops that may be provided in the individual schools or on a systemwide basis. During these workshops formal presentations and seminar discussions should inform the teachers of the administration's long range thinking and planning as concerns the education of gifted children. Local plans and policies should be presented clearly, to whatever extent they have been formulated. Teachers should be made aware of what other school systems have done for their gifted children, what exceptional educators have contributed to the field of gifted education, and of course it is important that an appreciation for

the importance of educating the gifted is fostered. This may be accomplished by discussions, allowing for the presentation of multiple points of view, that are concerned with the crucial concept of individual differences. Gifted children should be described, and methods of identifying them should also be discussed. Finally, the three main forms of arrangements for gifted children, acceleration, special grouping, and enrichment should be explained thoroughly. DeHaan and Havighurst (1957) also suggest that one valuable step an administrator may take with a teacher who is seeking a place to begin, is involving her in the identification of a child in her own classroom who is gifted. The teacher may be asked to get to know that child as well as possible, beyond the extent to which she ordinarily knows her students, and then to try to devise ways in which she can better serve that child.

Passow and Brooks (1960) suggest that in addition to the procedures mentioned above, a school system in a preparatory stage before setting up a gifted program may design and implement research experiments relating to any aspect of working with the gifted. They also propose the formation of committees to review and plan for instruction materials for use with the gifted, and curriculum revisions necessary for the program's effectiveness. Other features which should be considered include: by what measures shall the success or failure of a program be judged; and how will continuity of the program between school levels be accomplished?

Finally, when the structure of the new program has been determined and validated by a successful pilot demonstration, widespread adoption of the program follows. To insure that this proceeds smoothly it is important that responsibility for all aspects of the program be clearly assigned. A list of students who qualify for admission to the program

should be compiled and supplemented with any information about their special skills, talents or handicaps available.

At this point, then, the planning portion of the new program for the gifted ends, and the more exciting and rewarding period of program operation goes into full swing.

SUMMARY

Research studies on gifted children suggest that special education for the gifted is in the interests both of the children and of the society. Regular school curricula are too restrictive for the gifted child and are apt to frustrate and bore him, while the lack of challenge encourages poor work habits that can handicap him in later years. Similarly, the regular school curriculum does not provide suitable fare for persons who are expected to become society's future innovators and leaders.

The first requisite for establishing a program for the gifted is to define the term operationally and establish selection procedures. Suitable selection procedures should begin in the elementary schools, or even in kindergarten, and preferably should involve intelligence tests, achievement tests, assessment by teachers and other school staff and personality measures, designed to find out if the child is sufficiently mature, well-adjusted and motivated to profit from a special program. Several writers have suggested a talent scout system with scouts (who may be regular teachers or counsellors) at the different school levels maintaining contact with each other to ensure continuity throughout the gifted child's school career.

Research studies suggest acceleration, within a two-year limit, benefits the gifted child in almost all respects. Similarly research suggests grouping has no detrimental effects on gifted children, or on their relations with the other children. Both these administrative devices should be considered, therefore, as a means of making enrichment practices cheaper

and more workable. Where possible acceleration of a group of gifted children, rather than of individuals, is to be preferred.

To overcome the problem of having gifted children too thinly spread within the educational authority's area, parents of gifted children may be invited to enrol their offspring at one or two schools, designated instructional resource centres.

Suitable selection procedures, acceleration and grouping represent the administrative framework of a special education program for the gifted. The course content should be geared to the interests of individual children who often will want to study specific subjects intensively, and therefore will differ from situation to situation and from year to year. The aid of teacher consultants with specialized knowledge in relevant subject areas is often necessary.

A program for gifted children should not only concentrate on providing enrichment, usually defined as in-depth approaches as a higher conceptual level, but should also make provision for the early admission of gifted students to universities, or alternatively provide for gifted students to earn university credits while still at high school. Both approaches are designed to extend the length of the student's productive life, and by minimizing financial burdens, to encourage more gifted students to proceed to postgraduate studies.

Any educational system that seeks to provide the best possible educational opportunities for all its students will do best, first, to think of students as individuals with differences in abilities and needs. All efforts should be made to individualize instruction when possible. This ultimately will insure the best educational environment for gifted pupils. But until the goal of individualized instruction for all is realized, it

is important that gifted children are helped to develop their abilities and the school system can do this only by an organized effort to provide the type of educational experiences that stimulate the child to continue to achieve at outstanding levels.

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